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ENUMERATION OF THE LIGNEOUS PLANTS OF NORTHERN CHINA, II¹

ALFRED REHDER

LARDIZABALACEAE TO ROSACEAE

LARDIZABALACEAE

Decaisnea Fargesii Franchet in Jour. de Bot. vi. 234 (1892).—Rehder & Wilson in Sargent, Pl. Wilson. 1. 343 (1913).

Decaisnea insignis Diels in Bot. Jahrb. xxix. 342 (1900); xxxvi. beibl. lxxxii. 44 (1905).

SHENSI: Tai pei shan, alt. 2300–2600 m., *W. Purdom*, no. 501, 1910; “Mte. Kian san,” *G. Giraldi*, August 4, 1897.—See also Diels, l. c., and Rehder & Wilson, l. c.

DISTRIBUTION: also Hupeh, Szechuan, Hunan (Pl. Sin. cur. Handel-Mazzetti, no. 103), Yunnan.

Akebia quinata Decaisne in Arch. Mus. Paris, i. 195, t. 13a (1839).—Hemsley in Jour. Linn. Soc. xxiii. 30 (1886).—Diels in Bot. Jahrb. xxix. 344 (1900).—Gilg in Bot. Jahrb. xxxiv. beibl. lxxv. 28 (1904).—Loesener in Bot. Centralbl. Beih. xxxvii. abt. ii. 124 (1919).—Hers in Jour. N. China Branch R. As. Soc. liii. 106 (1922); Liste Ess. Lign. Honan, 2 (1922).

SHANTUNG: Lau shan, *O. Nebel* (ex Gilg, l. c.); Cape Ya tau, *A. Engler*, *B. Krug* (ex Loesener, l. c.).

NORTHERN KIANGSU: Liu lin shan, near Haichow, *J. Hers*, no. 602, May 5, 1921.

HONAN: without locality (ex Hers, l. c.).

SHENSI: Tsin ling shan, *P. J. Piasezki* (ex Hemsley, l. c., and Diels, l. c.).

DISTRIBUTION: also Hupeh, Kiangsi, Chekiang; Korea, Japan.

Akebia lobata Decaisne in Arch. Mus. Paris, i. 196, t. 13b (1839).—Diels in Bot. Jahrb. xxix. 344 (1900).

HONAN: Yung ning, Tsi li ping, alt. 1100 m., *J. Hers*, no. 418, May 22, 1919, Teng feng, Yu tai shan, alt. 800 m., *J. Hers*, no. 278, June 17, 1919; without precise locality, *J. Hers*, no. 32, 1918.

SHANSI: Hia hsien, Huang hai kow, *J. Hers*, no. 1848, October 2, 1921.

SHENSI: several localities, *G. Giraldi* (ex Diels, l. c.).

DISTRIBUTION (of the type): Kiangsi, Hunan, Hupeh, Szechuan; Japan.

¹For Part I, see Vol. IV, p. 117.

Akebia lobata var. *australis* Diels in Bot. Jahrb. xxix. 344 (1900).—Bailey, Gent. Herb. I. 23 (1920).—Hers in Jour. N. China Branch R. As. Soc. LIII. 106 (1922); Liste Ess. Lign. Honan, 2 (1922).

HONAN: Yung ning, Tsi li ping, *J. Hers*, no. 418^{bis}, May 22, 1919; Chikung shan, *L. H. Bailey* (ex Bailey, l. c.).

DISTRIBUTION: also Hupeh, Kiangsi, Szechuan, Yunnan.

Though Hers' no. 418^{bis} has entire leaflets like the variety, it may belong to the type; the leaves are too young to show the coriaceous texture characteristic of the variety.

BERBERIDACEAE

Nandina domestica Thunberg, Nov. Gen. Pl. I. 15 (1781); Fl. Jap. 9 (1784).—Bunge in Mém. Div. Sav. Acad. Sci. St. Pétersb. II. 78 (Enum. Pl. Chin., Bor. 4) (1833).—Hemsley in Jour. Linn. Soc. xxiii. 32 (1886).—Gilg in Bot. Jahrb. xxxiv. beibl. lxxv. 35 (1904).—Loesener in Bot. Centralbl. Beih. xxxvii. abt. II. 124 (1919).—Bailey, Gent. Herb. I. 23 (1920).—Hers in Jour. N. China Branch R. As. Soc. LIII. 112 (1922); Liste Ess. Lign. Honan, 19 (1922).

CHILI: Peking, cultivated (ex Bunge, l. c.); *E. Bretschneider* (ex Hemsley, l. c.).

SHANTUNG: Cape Ya tau, planted, *R. Zimmermann*, no. 462 (ex Gilg, l. c., and Loesener, l. c.).

HONAN: planted (ex Bailey, l. c., and Hers, l. c.).

DISTRIBUTION: also Chekiang, Kiangsi, Fokien, Hupeh; Japan.

In northern China this plant does not occur wild. In Peking it does not stand the climate and is grown in the house according to Bunge.

Berberis Soulieana Schneider in Bull. Herb. Boissier, sér. 2, v. 449 (1905); in Sargent, Pl. Wilson. I. 361 (1913); III. 437 (1917).—Meyer in U. S. Dept. Agric. Bur. Pl. Indust. Invent. Seeds Pl. Imp. XLIII. 66, no. 40682 (1918).

Berberis stenophylla Hance in Jour. Bot. xx. 257 (1882).—Fedde in Bot. Jahrb. xxxvi. beibl. lxxxii. 44 (1905).—Non Lindley.

Berberis Wallichiana Hemsley in Jour. Linn. Soc. xxiii. 32 (1886).—Maximowicz in Act. Hort. Petrop. XI. 42 (1890).—Diels in Bot. Jahrb. xxix. 341 (1900), quoad specimen coll. a Piasezki.—Non De Candolle.

Berberis levis Schneider in Bull. Herb. Boissier, sér. 2, VIII. 198 (1908), quoad specimina e Shensi et synonyma citata.—Non Franchet.

SHENSI: Tai pei shan, *W. Purdom*, no. 7, 1910; Tsin ling shan, *P. J. Piasezki* (ex Hemsley, l. c., Maximowicz, l. c., and Diels, l. c.); Ngo shan, Kan y shan, Kan y huo, *G. Giralddi* (ex Fedde, l. c.).—See also Schneider, l. c. (1908 and 1917).

KANSU: near Kwa tsa, on decomposed rock slope, alt. 1400 m., *F. N. Meyer*, no. 1823, November 9, 1914.—See also Schneider, l. c. (1917), and Meyer, l. c.

DISTRIBUTION: also Szechuan.

Berberis diaphana Maximowicz in Bull. Acad. Sci. St. Pétersb. XXIII. 309 (1876); in Mém. Biol. ix. 712 (1877); Fl. Tangut. 32, t. 8, fig. 1-7 (1889); in Act. Hort. Petrop. xi. 42 (1890).—Hemsley in Jour. Linn. Soc. XXIII. 31 (1886).—Kanitz in Szechenyi, Keletasz. Utján. Tudom. Ered. II. 794 (Pl. Enum. 6) (1891); in Szechenyi, Wiss. Ergeb. Reise Ostas. II. 681 (1898).—Schneider in Bull. Herb. Boissier, sér. 2, v. 398 (1905); VIII. 195 (1908).—Fedde in Bot. Jahrb. XXXVI. beibl. LXXXII. 44 (1905).—Rehder in Sargent, Trees & Shrubs, II. 19, t. 109 (1907).

SHENSI: *G. Giraldi* (ex Fedde, l. c.).

KANSU: *N. Przewalski* and *G. N. Potanin* (fragments of specimens).—See also Maximowicz, l. c. (1876, 1889 and 1890), Hemsley, l. c., and Kanitz, l. c.

DISTRIBUTION: also Szechuan.

Berberis circumserrata Schneider in Sargent, Pl. Wilson. III. 435 (1917).—Hers in Jour. N. China Branch R. As. Soc. LIII. 107 (1922); Liste Ess. Lign. Honan, 4 (1922).

Berberis diaphana var. *circumserrata* Schneider in Sargent, Pl. Wilson. I. 354 (1913).

SHENSI: Tai pei shan, *W. Purdom*, no. 4, 1910.—See also Schneider, l. c.

HONAN: Lushih, Lao kiun shan, alt. 2000 m., *J. Hers*, no. 1202, September 21, 1919.—See also Hers, l. c.

The specimen from Honan is sterile, but agrees exactly with Purdom's specimen and there can be little doubt that it belongs to this species.

Berberis parvifolia Sprague in Kew Bull. Misc. Inform. 1908, 445.—Schneider in Sargent, Pl. Wilson. III. 436 (1917).

KANSU: Choni and Tow chou districts, alt. 2600-3000 m., *W. Purdom*, no. 826 (seeds only; plants raised from this seed growing in the Arnold Arboretum).—See also Schneider, l. c.

DISTRIBUTION: also Szechuan.

Berberis Potaninii Maximowicz in Act. Hort. Petrop. xi. 41 (1890).—Bretschneider, Hist. Eur. Bot. Discov. China, 1025 (1898).—Schneider in Bull. Herb. Boissier, sér. 2, VIII. 199 (1908).—Meyer in U. S. Dept. Agric. Bur. Pl. Indust. Invent. Seeds Pl. Imp. XLIII. 66, no. 40681 (1918).

Berberis sphaera Fedde in Bot. Jahrb. XXXVI. beibl. LXXXII. 44 (1905).

Berberis Liechtensteinii Schneider in Sargent, Pl. Wilson. I. 377 (1913).

SHENSI: near Shan lien li, on rocky slopes, *F. N. Meyer*, no. 1926, September 17, 1914.—See also Fedde, l. c., and Schneider, l. c. (1908).

KANSU: near Chu kun, southwestern Kansu, on rocky dry slopes, *F. N. Meyer*, no. 1984, October 18, 1914.—See also Maximowicz, l. c., and Meyer, l. c.

DISTRIBUTION: also Szechuan.

Schneider himself identified in 1916 his *B. Liechtensteinii* with *B. Potaninii* Maxim. (in sched. herb. Arnold Arb.).

Berberis aggregata Schneider in Bull. Herb. Boissier, sér. 2, VIII. 203 (1908).—Meyer in U. S. Dept. Agric. Bur. Pl. Indust. Invent. Seeds Pl. Imp. XLIII. 67, no. 40687 (1918).

Berberis sinensis var. *crataegina* Maximowicz in Act. Hort. Petrop. XI. 40 (1890).—Non Regel.

KANSU: Liang dja pa, *F. N. Meyer*, no. 1811, October 20, 1914; valley of river Hei ho and river Pei shui, *G. N. Potanin* (ex Maximowicz, l. c., and Schneider, l. c.); near Siku (ex Meyer, l. c.).

DISTRIBUTION: also Szechuan.

Berberis Vernae Schneider in Sargent, Pl. Wilson. I. 372 (1913); in Möller's Deutsch. Gärt.-Zeit. XXXV. 82, fig. (1917).

Berberis Caroli var. *hoanghensis* Schneider in Bull. Herb. Boissier, sér. 2, v. 459 (1905).

KANSU: Min chow, alt. 2500–3000 m., *W. Purdom*, no. 1047, 1910.

DISTRIBUTION: also Szechuan.

Berberis Caroli Schneider in Bull. Herb. Boissier sér. 2, v. 459 (1905).

Berberis integerrima var. *stenophylla* Maximowicz, Fl. Tangut. 29 (1889); in Act. Hort. Petrop. XI. 41 (1890).

KANSU: Tao ho, *G. N. Potanin* (ex Maximowicz, l. c.).

Berberis Purdomii Schneider in Sargent, Pl. Wilson. I. 372 (1913).

SHENSI: south of Yen-an Fu, *W. Purdom*, no. 3, 1910, Yen-an Fu, *W. Purdom*, no. 345, 1910.—See also Schneider, l. c.

Berberis Poirerii Schneider in Mitt. Deutsch. Dendr. Ges. xv. 180 (1906); in Bull. Herb. Boissier, sér. 2, VIII. 258 (1908).

Berberis chinensis Bunge in Mém. Div. Sav. Acad. Sci. St. Pétersb. II. 78 (Enum. Pl. Chin. Bor. 4) (1833).—Non Poirer.

Berberis sinensis Turczaninow in Bull. Soc. Nat. Moscou, x. no. VII. 149 (1837).—Hemsley in Jour. Linn. Soc. XXIII. 31 (1886), quoad specimina e Chili.—Maximowicz in Mém. Div. Sav. Acad. Sci. St. Pétersb. IX. 469 (Ind. Fl. Pekin.) (1859); in Act. Hort. Petrop. XI. 40 (1890).—Bretschneider, Hist. Eur. Bot. Discov. China, 52, 172 (1898).—Non Desfontaines.

Berberis sinensis β . *angustifolia* Regel in Act. Hort. Petrop. II. 416 (1873).—Hance in Jour. Bot. XIII. 130 (1875).—Franchet in Nouv. Arch. Mus. Paris, sér. 2, v. 178 (Pl. David. I. 26) (1882).—Palibin in Act. Hort. Petrop. XIV. 108 (1895).

CHILI: Hsiao Wu tai shan, stony places, *F. N. Meyer*, nos. 1094, 1384, August 4 and 30, 1913; Nei chwang, western hills, *J. Hers*, no. 2223, October 11, 1922; Huai lai hsien, Liu shu chwang, alt. 800 m., *J. Hers*, no. 2082, October 3, 1922; Men tow kow, *J. Hers*, no. 2560, July 8, 1923; Po hua shan, *J. Hers*, no. 1670, September 9, 1921; Tsing shui tsien, *J. Hers*, no. 1631, September 6, 1921; Shih wen, on stony and pebbly hillsides, *F. N. Meyer*, no. 1073, August 2, 1913; near San tun ying, *F. N. Meyer*, no. 960, May 29, 1913.—See also Bunge, l. c., Hemsley, l. c., Maximowicz, l. c., Regel, l. c., Hance, l. c., Franchet, l. c., Palibin, l. c., and Schneider, l. c. (1908).

DISTRIBUTION: also Mongolia, Manchuria, Amurland.

The specimen mentioned and described by Schneider as a remarkable but incomplete specimen from Weichang collected by Purdom (in Sargent, Pl. Wilson. i. 373 [1913]) I consider an abnormal form of *B. Poiretii*.

It is unfortunate and misleading to the uninitiated that the species which bears according to the rule of priority the name *B. chinensis* Poir. (*B. sinensis* Desf.) is not a Chinese but a Caucasian species which had been described and named from cultivated plants supposed to have been raised from Chinese seed.

Berberis Poiretii* f. *weichangensis Schneider in Sargent, Pl. Wilson. i. 372 (1913).

CHILI: east of Weichang, *W. Purdom*, nos. 2 and 35.—See also Schneider, l. c.

This form differs very little from typical *B. Poiretii*.

Berberis Dielsiana Fedde in Bot. Jahrb. xxxvi. beibl. lxxxii. 41 (1905).—Schneider in Bull. Herb. Boissier, sér. 2, viii. 261 (1908), quoad specimen Giralddii; in Sargent, Pl. Wilson. iii. 441 (1917).—Hers in Jour. N. China Branch R. As. Soc. liii. 107 (1922); Liste Ess. Lign. Honan, 4 (1922).

Berberis Henryana Schneider in Bull. Herb. Boissier, sér. 2, viii. 261 (1908), quoad specimina Giralddii.

Berberis Poiretii Hers in Jour. N. China Branch R. As. Soc. liii. 107 (1922); Liste Ess. Lign. Honan, 4 (1922).—Non Schneider.

HONAN: Yung ning, Ku hsien, alt. 800 m., *J. Hers*, no. 841, October 6, 1919; Yung ning, Tsi li ping, *J. Hers*, no. 443, May 22, 1919; Yung ning, Yo tze ping, alt. 1000 m., *J. Hers*, no. 827, October 4, 1919; Lushih, Kiao ho, alt. 1000 m., *J. Hers*, no. 982, October 13, 1919; Lushih, Tsi tsuen kow, alt. 800 m., *J. Hers*, no. 855, October 8, 1919; Lushih, Lao kiun shan, alt. 2000 m., *J. Hers*, no. 1167, September 21, 1919 (sterile); Sung hsien, Shih tze miao, *J. Hers*, no. 598, May 26, 1919; Cheng chow nursery, introduced from Sung shan, *J. Hers*, no. 332, April 24, 1921.

SHENSI: south of Yen an fu, *W. Purdom*, no. 341 (1910).—See also Fedde, l. c., and Schneider, l. c.

DISTRIBUTION: also Szechuan.

The specimens from Yung ning, Honan, differ somewhat in their smaller leaves of firmer texture.

Berberis dubia Schneider in Bull. Herb. Boissier, sér. 2, v. 663 (1905); viii. 259 (1908).

Berberis sinensis Hemsley in Jour. Linn. Soc. xxiii. 31 (1886), quoad plantam e Kansu.—Non Desfontaines.

Berberis vulgaris Hemsley, l. c. (1886), quoad plantam e Kansu.—Non Linnaeus.

Berberis sinensis var. *crataegina* Franchet in Nouv. Arch. Mus. Paris, sér. 2, v. 178 (Pl. David. i. 26) (1882).—Maximowicz, Fl. Tangut. 33 (1889).—Non Regel.

Berberis vulgaris α. *normalis* Maximowicz in Fl. Tangut. 29 (1889); in Act. Hort. Petrop. xi. 41 (1890).—Non Hooker f. & Thomson.

Berberis vulgaris ε. *emarginata* Maximowicz in Act. Hort. Petrop. xi. 41 (1890).—Non Regel.

SHANSI: Ta tsing shan, *A. David* (ex Franchet, l. c., and Schneider, l. c. [1908]).

KANSU: *N. Przewalski*, *G. N. Potanin* (ex Schneider, l. c. [1905 and 1908]).

DISTRIBUTION: also Mongolia.

I have seen no specimens of this species.

Berberis dasystachya Maximowicz in Bull. Acad. Sci. St. Pétersb. XXIII. 308 (1877); in Mém. Biol. ix. 711 (1877); Fl. Tangut. 30, t. 5, fig. 1-7 (1889); in Act. Hort. Petrop. xi. 41 (1890).—Hemsley in Jour. Linn. Soc. XXIII. 3 (1886).—Kantiz in Szechenyi, Keletazs. Utján. Tudom. Ered. II. 794 (Pl. Enum. 5) (1891); in Szechenyi, Wiss. Ergeb. Reise Ostas. II. 681 (1898).—Bretschneider, Hist. Eur. Bot. Discov. China, 971 (1898).—Schneider in Bull. Herb. Boissier, sér. 2, v. 664 (1905); VIII. 262 (1908).—Fedde in Bot. Jahrb. XXXVI. beibl. LXXXII. 43 (1905).—Schneider in Sargent, Pl. Wilson. III. 442 (1917).

Berberis heteropoda var. *oblonga* Maximowicz in Act. Hort. Petrop. xi. 41 (1890).—Non Regel.

? *Berberis dolichobotrys* Fedde in Bot. Jahrb. XXXVI. beibl. LXXXII. 41 (1905).

SHENSI: Tai pei shan, *W. Purdom*, nos. 1, 5, 9, 1910.—See also Fedde, l. c., and Schneider, l. c. (1908 and 1917).

KANSU: Min chow and Choni districts, *W. Purdom*, no. 1014, 1910; *N. Przewalski* (ex Maximowicz, l. c. [1877 and 1889], Schneider, l. c. [1905]), *G. N. Potanin* (ex Maximowicz, l. c. [1890], Schneider, l. c. [1908]), *L. Loczy* (ex Kantiz, l. c.).

DISTRIBUTION: also Hupeh and Szechuan.

Purdom's specimens from Kansu differ from typical *B. dasystachya* in the bright red-brown nearly terete branches and in the more remotely and less setosely serrulate leaves and may represent a distinct form.

Berberis Gilgiana Fedde in Bot. Jahrb. XXXVI. beibl. LXXXII. 43 (1905).—Schneider in Sargent, Pl. Wilson. I. 375 (1913).

SHENSI: Tai pei shan, *W. Purdom*, nos. 6, 8, 1910.—See also Fedde, l. c., and Schneider, l. c.

Berberis brachypoda Maximowicz in Bull. Acad. Sci. St. Pétersb. XXIII. 308 (1877); in Mém. Biol. ix. 711 (1877); Fl. Tangut. 30, t. 7, fig. 8-13 (1889).—Hemsley in Jour. Linn. Soc. XXIII. 31 (1886).—Bretschneider, Hist. Eur. Bot. Discov. China, 995 (1898).—Schneider in Bull. Herb. Boissier, sér. 2, VIII. 262 (1908).

SHENSI: Lung chow, Li kia po, alt. 1400 m., *J. Hers*, no. 2395.—See also Schneider, l. c.

KANSU: *P. J. Piaszeki* (ex Maximowicz, l. c., Hemsley, l. c., and Bretschneider, l. c.).

DISTRIBUTION: also Hupeh.

Berberis brachypoda var. *salicaria* Schneider in Bull. Herb. Boissier, sér. 2, VIII. 262 (1908).

Berberis salicaria Fedde in Bot. Jahrb. xxxvi. beibl. lxxxii. 42 (1905).

SHENSI: *G. Giraldi* (ex Fedde, l. c., and Schneider, l. c.).

Berberis Giraldei Hesse in Mitt. Deutsch. Dendr. Ges. xxii. 272, fig. (1913).

SHENSI: *G. Giraldi* (seeds only; plants raised and distributed by H. A. Hesse, Weener, Germany).

This species differs from the preceding chiefly in its glabrous inflorescence.

Berberis amurensis Ruprecht in Bull. Phys.-Math. Acad. Sci. St. Pétersb. xv. 260 (1857).—Schneider in Bull. Herb. Boissier, sér. 2, viii. 260 (1908); in Sargent, Pl. Wilson. i. 375 (1913).

Berberis vulgaris var. *amurensis* Regel in Act. Hort. Petrop. ii. 414 (1873).—Franchet in Nouv. Arch. Mus. Paris, sér. 2, v. 177 (Pl. David. i. 25) (1882).—Palibin in Act. Hort. Petrop. xiv. 108 (1895).—Fedde in Bot. Jahrb. xxxvi. beibl. lxxxii. 41 (1905).

Berberis vulgaris Maximowicz in Mém. Div. Sav. Acad. Sci. St. Pétersb. ix. 469 (Ind. Fl. Pekin.) (1859).—Hemsley in Jour. Linn. Soc. xxiii. 23 (1886), quoad plantam e Chili.—Gilg in Bot. Jahrb. xxxiv. beibl. lxxv. 35 (1904).—Loesener in Bot. Centralbl. Beih. xxxvii. abt. ii. 124 (1919).—Non Linnaeus.

CHILI: Weichang, *W. Purdom*, no. 34, 1910; Hsiao Wu tai shan, alt. 1600 m., *F. N. Meyer*, no. 1231, August 20, 1913; same locality, *J. Hers*, no. 1480, July 14, 1921; Hsiao Wu tai shan, Tieh ling sze, alt. 1300 m., *J. Hers*, no. 2140, October 7, 1922.—See also Franchet, l. c., Palibin, l. c., and Schneider, l. c. (1908 and 1913).

?SHANTUNG: *O. Nebel*, *A. Engler* and *B. Krug* (ex Gilg, l. c. and ex Loesener, l. c.).

SHANSI: Wu tai shan, alt. 1600 m., *J. Hers*, no. 2631, July 29, 1923; Wu chai hsien, Ta nan kow, alt. 2000–3000 m., *Tchuang Kieh*, *Hers* no. 2037, September 7, 1922; Nan yang shan, alt. 2000 m., *J. Hers*, no. 2730, September 22–30, 1923.

SHENSI: Sze wu hsien, *F. N. Meyer*, no. 1719, September 1, 1914 (Herb. U. S. Dept. Agric.).—See also Fedde, l. c., and Schneider, l. c. (1908).

DISTRIBUTION: Amurland, Manchuria, Korea.

As I have seen no specimens from Shantung and the specimens cited by Gilg and by Loesener have been determined as *B. vulgaris*, I am not sure if they belong to this species, but they certainly cannot be identical with true *B. vulgaris* L.

Berberis Thunbergii DC., cited by Hemsley (in Jour. Linn. Soc. xxiii. 32 [1886]) as collected on the Tsung lin range according to Maximowicz and also enumerated by Diels (in Bot. Jahrb. xxix. 341 [1900]) as collected by Piasezki on the Tsing ling shan, is certainly not true *B. Thunbergii*, but I have been unable to find a note on the correct determination of Piasezki's specimen.

Mahonia Bealii Carrière in Fl. des Serr. x. 166 (1855).—Takeda in Not. Bot. Gard. Edinb. vi. 225 (1917).—Hers in Jour. N. China Branch R. As. Soc. LIII. 112 (1922); Liste Ess. Lign. Honan, 18 (1922).

Berberis nepaulensis Hemsley in Jour. Linn. Soc. xxiii. 31 (1886), quoad plantam e "Tsonglin range."—Non Sprengel.
Mahonia japonica Diels in Bot. Jahrb. xxix. 338 (1900).—Fedde in Bot. Jahrb. xxxvi. beibl. lxxxii. 41 (1905).—Non De Candolle.

HONAN: Sung hsien, Shih tze miao, *J. Hers*, no. 1291, September 25, 1919.—See also Hers, l. c.

SHENSI: Tsin ling shan, *P. J. Piasezki* (ex Hemsley, l. c., and Diels, l. c.), *G. Giraldi* (ex Fedde, l. c.).

DISTRIBUTION: Chekiang (*H. H. Hu*, no. 207), Hunan (*Handel-Mazzetti*, no. 836), Hupeh, Szechuan.

MENISPERMACEAE

Menispermum dauricum De Candolle, Syst. i. 540 (1818).—Bunge in Mém. Div. Sav. Acad. Sci. St. Pétersb. ii. 78 (Enum. Pl. Chin. Bor. 4) (1833).—Turczaninov in Bull. Soc. Nat. Moscou, x. no. vii. 149 (1837), "dahuricum."—Maximowicz in Mém. Div. Sav. Acad. Sci. St. Pétersb. ix. 468 (Ind. Fl. Pekin.) (1859), "dahuricum;" in Bull. Acad. Sci. St. Pétersb. xxix. 67 (1883); in Mém. Biol. xi. 647 (1883), "dahuricum;" in Act. Hort. Petrop. xi. 40 (1890), "dahuricum."—Franchet in Nouv. Arch. Mus. Paris, sér. 2, v. 177 (Pl. David. i. 25) (1882); in Mém. Soc. Sci. Nat. Cherbourg, xxiv. 198 (1884).—Hemsley in Jour. Linn. Soc. xxiii. 29 (1886).—Palibin in Act. Hort. Petrop. xiv. 108 (1895).—Bretschneider, Hist. Eur. Bot. Discov. 52, 1050 (1898).—Diels in Bot. Jahrb. xxxvi. beibl. lxxxii. 45 (1905); in Engler, Pflanzenr. iv.-94, 258 (1910), "dahuricum."—Loesener in Bot. Centralbl. Beih. xxxvii. abt. ii. 124 (1919).—Bailey, Gent. Herb. i. 23 (1920).—Cowdry in Jour. N. China Branch R. As. Soc. liii. 160 (Pl. Peitaiho) (1922).

CHILI: Near San tun ying, *F. N. Meyer*, no. 949, May 28, 1913.—See also Bunge, l. c., Turczaninov, l. c., Maximowicz, l. c., Franchet, l. c. (1882), Hemsley, l. c., Palibin, l. c., Diels, l. c. (1910), and Cowdry, l. c.

SHANTUNG: Franchet, l. c. (1884), Hemsley, l. c., Diels, l. c. (1910), and Loesener, l. c.

HONAN: Chi kung shan, *L. H. Bailey* (ex Bailey, l. c.).

SHENSI: *W. Purdom*, no. 1146, 1910.—See also Diels, l. c. (1905 and 1910).

DISTRIBUTION: also Fokien (Hongkong Herb. no. 2335); Siberia, Mongolia, Manchuria, Korea, Japan.

Menispermum dauricum var. *pauciflorum* Franchet in Nouv. Arch. Mus. Paris, sér. 2, v. 177 (Pl. David. i. 25) (1882).

CHILI: Jehol, *A. David*, no. 1747 (ex Franchet, l. c.).

Sinomenium acutum var. *cinereum* Rehder & Wilson in Sargent, Pl. Wilson. i. 387 (1913).

Cocculus diversifolius Miq. var. *cinereus* Diels in Bot. Jahrb. xxxvi. beibl. lxxxii. 45 (1905).

Sinomenium diversifolium var. *cinereum* Diels in Engler, Pflanzenr. iv.-94, 255 (1910).

SHENSI: *G. Giraldi*, no. 4358 (ex Diels, l. c. 1905).

DISTRIBUTION: also Hupeh, Szechuan, Kweichow; of the type: Hupeh, Szechuan, Kweichow; Korea, Japan.

Cocculus trilobus De Candolle, Syst. i. 522 (1818).—Diels in Engler, Pflanzenr. iv.-94, 232 (1910).—Rehder & Wilson in Sargent, Pl. Wilson.

i. 388 (1913).

Cocculus Thunbergii De Candolle, Syst. i. 524 (1818).—Maximowicz in Bull. Acad. Sci. St. Pétersb. xxix. 70 (1883); in Mém. Biol. xi. 651 (1883).—Hemsley in Jour. Linn. Soc. xxiii. 28 (1886).—Faber, Denkschr. Entwickel. Kiautschou, 31 (1898).—Ito in Tokyo Bot. Mag. xiv. 74 (1900).—Gilg in Bot. Jahrb. xxxiv. beibl. LXXV. 35 (1904).—Diels in Bot. Jahrb. xxxvi. beibl. LXXXII. 45 (1905).—Loesener in Bot. Centralbl. Beih. xxxvii. abt. ii. 124 (1919).—Bailey, Gent. Herb. i. 23 (1920).—Cowdry in Jour. N. China Branch R. As. Soc. LIII. 160 (Pl. Peitaiho) (1922).

Cocculus Thunbergii [sic] f. *trilobata* Debeaux in Act. Soc. Linn. Bordeaux, xxxi. 120 (Fl. Tché-foû, 25) (1876).

CHILI: Pei tai ho (ex Cowdry, l. c.).

SHANTUNG: Tsing tau, *R. Zimmermann*, no. 216.—See also Debeaux, l. c., Hemsley, l. c., Faber, l. c., Ito, l. c., Gilg, l. c., Loesener, l. c., Diels, l. c. (1910), and Rehder & Wilson, l. c.

HONAN: Chi kung shan, *L. H. Bailey* (ex Bailey, l. c.).

SHENSI: ex Diels, l. c. (1905 and 1910).

DISTRIBUTION: also Kiangsu, Chekiang, Fokien, Kiangsi, Hupeh, Hunan, Kweichow, Yunnan; Korea, Japan, Formosa, Philippines.

MAGNOLIACEAE

Magnolia parviflora Siebold & Zuccarini in Abh. Akad. Muench. iv. pt. ii. 187 (Fl. Jap. Fam. Nat. i. 79) (1843).—Gilg in Bot. Jahrb. xxxiv. beibl. LXXV. 35 (1904).—Loesener in Bot. Centralbl. Beih. xxxvii. abt. ii. 124 (1919).

SHANTUNG: Planted (ex Gilg, l. c., and Loesener, l. c.).

DISTRIBUTION: Korea, Japan.

Magnolia aulacosperma Rehder & Wilson in Sargent, Pl. Wilson. i. 396 (1913).—Hers in Jour. N. China Branch R. As. Soc. LIII. 112 (1922); Liste Ess. Lign. Honan, 18 (1922).

Magnolia sp. ex affinitate *M. stellatae* Diels in Bot. Jahrb. xxix. 322 (1900); xxxvi. beibl. LXXXII. 38 (1905).

HONAN: Yungning, Tsi li ping, *J. Hers*, no. 457, May 22, 1919 ("flowers white;" young fruit); same locality, alt. 1000 m., *J. Hers*, no. 1343, September 13, 1919; Sung hsien, Suan kuan miao, *J. Hers*, no. 541, May 24, 1919 ("white flowers"); Lushih, Kiao ho, *J. Hers*, no. 964, October 12, 1919; Lushih, Tung ho, *J. Hers*, no. 991, October 14, 1919.—See also Hers, l. c.

SHENSI: "Shensi Sept.," *G. Giraldi*, 1897.—See also Diels, l. c.

DISTRIBUTION: also Hupeh.

Giraldi's specimen which was collected apparently in autumn agrees well in its leaves and flower-buds with *M. aulacosperma* and I have little doubt that it belongs here.

The flowers of this species are yet unknown; according to the notes on the labels of Hers' nos. 457 and 541 their color is white. Photographs of the tree from which Hers' specimen 964 was collected are in the photograph collection of this Arboretum; the tree is 18 m. tall with a trunk 1.20 m. in girth.

Magnolia denudata Desrousseaux in Lamarck, Encycl. Méth. III. 675 (1791), ex parte.—Rehder & Wilson in Sargent, Pl. Wilson. I. 399 (1913).—Bailey, Gent. Herb. I. 24 (1920).—Hers in Jour. N. China Branch R. As. Soc. LIII. 112 (1922); Liste Ess. Lign. Honan, 18 (1922).

Magnolia conspicua Salisbury, Parad. Lond. I. t. 38 (1806).—Maximowicz in Bull. Acad. Sci. St. Pétersb. XVII. 419 (1872); in Mém. Biol. VIII. 508 (1872).—Hemsley in Jour. Linn. Soc. XXIII. 23 (1886).—Faber in Denkschr. Entwickel. Kiautschou, 32 (1898).—Ito in Tokyo Bot. Mag. XIV. 73 (1900).—Gilg in Bot. Jahrb. XXXIV. beibl. LXXV. 35 (1904).—Loesener in Bot. Centralbl. Beih. XXXIV. abt. II. 124 (1919).

Magnolia Yulan Desfontaines, Hist. Arb. II. 6 (1809).—Bunge in Mém. Div. Sav. Acad. Sci. St. Pétersb. II. 77 (Enum. Pl. Chin. Bor. 3) (1833).

Magnolia Julian Turczaninov in Bull. Soc. Nat. Moscou, X. no. VII. 149 (1837).

CHILI: planted (ex Bunge, l. c., Maximowicz, l. c., and Hemsley, l. c.).
SHANTUNG: planted (ex Faber, l. c., Gilg, l. c., Ito, l. c., and Loesener, l. c.).

NORTHERN KIANGSU: Su kow, near Hai chow, *J. Hers*, no. 622, May 5, 1921.

HONAN: Sung hsien, Suan kuan miao, alt. 1200 m., *J. Hers*, no. 541-bis, May 24, 1919; Sung hsien, Shih tze miao, alt. 1200 m., *J. Hers*, no. 1254, September 25, 1919; Lushih, Lao kiun shan, alt. 2000 m., *J. Hers*, no. 1159, September 21, 1919; without locality, *J. Hers*, no. 38.—See also Bailey, l. c., and Hers, l. c.

DISTRIBUTION (including the variety): also Chekiang, Kiangsi, Hupeh; cultivated in Japan.

As no flowers of the Honan plant have been collected it remains doubtful if it belongs to the typical form or to var. *purpurascens* Rehder & Wilson which occurs in Hupeh.

Magnolia liliiflora Desrousseaux in Lamarck, Encycl. Méth. III. 675 (1791), ex parte.—Rehder & Wilson in Sargent, Pl. Wilson. I. 402 (1913).—Hers in Jour. N. China Branch R. As. Soc. LIII. 112 (1922); Liste Ess. Lign. Honan, 18 (1922).

Magnolia obovata Thunberg in Trans. Linn. Soc. II. 336 (1794), pro parte.—Gilg in Bot. Jahrb. XXXIV. beibl. LXXV. 35 (1904).—Loesener in Bot. Centralbl. Beih. XXXVII. abt. II. 124 (1919).

SHANTUNG: Cape Ya tau, near a temple (ex Gilg, l. c., and Loesener, l. c.).

HONAN: planted (ex Hers, l. c.).

DISTRIBUTION: also Kiangsu, Hupeh, Szechuan, but probably planted.

The native habitat of this plant which is much cultivated in China and Japan is probably southern China. The specimen from Shantung is probably from a planted tree and its correct identification is open to doubt, as it is stated to bloom in July.

Magnolia spec. Diels in Bot. Jahrb. xxxvi. beibl. lxxxii. 38 (1905), collected by Giraldis near Zulu, alt. 1500 m., possibly belongs to *M. denudata* Desrouss. which occurs in Honan and Hupeh, or it may belong to *M. Biondii* Pampan. from northern Hupeh which is erroneously credited to Shensi in Pl. Wilson. i. 408 (1913).

Schisandra chinensis Baillon, Hist. Pl. i. 148 (1867-1869).—Franchet in Nouv. Arch. Mus. Paris, sér. 2, v. 176 (Pl. David. i. 24) (1882).—Hemsley in Jour. Linn. Soc. xxiii. 25 (1886).—Finet & Gagnepain in Bull. Soc. Bot. France, lii. Mém. iv. 49 (1905); Contrib. Fl. As. Or. ii. 49 (1907). *Kadsura chinensis* Turczaninow in Bull. Soc. Nat. Moscou, x. no. vii. 149 (1837).

Maximowiczia chinensis Ruprecht in Bull. Phys.-Math. Acad. Sci. St. Pétersb. xv. 259, in textu (1857).—Maximowicz in Mém. Div. Sav. Acad. Sci. St. Pétersb. ix. 468 (Ind. Fl. Pekin.) (1859).

CHILI: Jehol, *A. David*, no. 1839 (Gray Herb.); Weichang, *W. Purdom*, no. 117, 1909; Hsiao Wu tai shan, *F. N. Meyer*, no. 1347, August 23, 1913; Hsiao Wu tai shan, Shui shih tao, alt. 1500 m., *J. Hers*, no. 2154, October 8, 1922.—See also Turczaninow, l. c., Maximowicz, l. c., Franchet, l. c., Hemsley, l. c., and Finet & Gagnepain, l. c.

DISTRIBUTION: also Manchuria, Korea, Japan.

Schisandra sphenanthera Rehder & Wilson in Sargent, Pl. Wilson. i. 414 (1913).—*F. N. Meyer* in U. S. Dept. Agric. Bur. Pl. Indust. Invent. Seeds Pl. Imp. xlii. 54, no. 40025 (1918).—Bailey, Gent. Herb. i. 24 (1920).—Hers in Jour. N. China Branch R. As Soc. liii. 115 (1922); Liste Ess. Lign. Honan, 28 (1922).

Schizandra chinensis Hemsley in Jour. Linn. Soc. xxiii. 25 (1886), quoad plantam e "Tsung lin range."—Maximowicz in Act. Hort. Petrop. xi. 39 (1890).—Diels in Bot. Jahrb. xxix. 322 (1900).

HONAN: Yung ning, Tsi li ping, alt. 1000 m., *J. Hers*, nos. 424, 452, May 22, 1919 and no. 1335, September 3, 1919; Lushih, Hiung eul shan, alt. 1300 m., *J. Hers*, nos. 860, 887, October 9 and 10, 1919; Lushih, Liao kiun shan, alt. 2000 m., *J. Hers*, no. 1220, September 21, 1919; Sun hsien, Shih tze miao, alt. 1200 m., *J. Hers*, no. 1246, September 25, 1919; Teng Feng hsien, Yu tai shan, alt. 800 m., *J. Hers*, no. 243, April 23, 1919.—See also Bailey, l. c., and Hers, l. c.

SHENSI: "Monte de Kian-san," *G. Giraldis*, August 4, 1909; Tai pei shan, *W. Purdom*, no. 1037, 1910; Kwan ying tang, *F. N. Meyer*, no. 1905, September 15, 1914 (Herb. U. S. Dept. Agric.).—See also Meyer, l. c., Diels, l. c., Hemsley, l. c., and Rehder & Wilson, l. c.

KANSU: Chi shan, near Cheng hsien, *F. N. Meyer*, no. 1750, October 1, 1914 (Herb. U. S. Dept. Agric.).

DISTRIBUTION: also Kiangsi, Hupeh, Hunan (*Handel-Mazzetti*, nos. 11740, 11933), Yunnan.

Schisandra propinqua Hook. f. & Thoms. var. *sinensis* Oliver in Hooker's Icon. xviii. t. 1715 (1887).—Maximowicz in Act. Hort. Petrop. xi. 39

(1890).—Diels in Bot. Jahrb. xxix. 322 (1900); in xxxvi. beibl. lxxxii. 39 (1905).

SHENSI: Lean shan, *G. Giraldi*, no. 6011 (ex Diels, l. c. [1905]).

KANSU: *P. J. Piasezki* (ex Maximowicz, l. c., and Diels, l. c. [1900]).

I have seen no specimens of *S. propinqua* var. *sinensis* from Kansu or Shensi and I am not quite sure if Giraldi's specimen from Shensi belongs here or to the preceding species, as the leaves on sterile shoots of *S. spheanthera* are often ovate-oblong to elliptic-lanceolate and thus resemble those of this variety. Piasezki's specimen, however, certainly belongs to this variety according to Maximowicz's description.

CALYCANTHACEAE

Meratia praecox Rehder & Wilson in Sargent, Pl. Wilson. i. 419 (1913).—Bailey, Gent. Herb. i. 24 (1920).—Hers in Jour. N. China Branch R. As. Soc. LIII. 112 (1922); Liste Ess. Lign. Honan, 19 (1922).

Chimonanthus fragrans Lindley in Bot. Reg. vi. t. 451 (1820).—Bunge in Mém. Div. Sav. Acad. Sci. St. Pétersb. II. 101 (Enum. Pl. Chin. Bor. 27) (1833).—Hemsley in Jour. Linn. Soc. xxiii. 22 (1886).—Diels in Bot. Jahrb. xxix. 345 (1900).

Calycanthus praecox Linnaeus, Spec. ed. 2, 718 (1762).—Loesener in Bot. Centralbl. Beih. xxxvii. abt. II. 125 (1919).

CHILI: Tang shan, hot springs, *F. N. Meyer*, no. 216, October, 1905.—See also Bunge, l. c., Hemsley, l. c., and Rehder & Wilson, l. c.

SHANTUNG: planted (ex Loesener, l. c.).

HONAN: Hsiao hsien, Huang tsang yu, alt. 200 m., cultivated, *J. Hers*, no. 1005, April 25, 1919.—See also Bailey, l. c., and Hers, l. c.

SHENSI: planted (ex Hemsley, l. c., and Maximowicz, l. c.).

KANSU: planted? (ex Maximowicz, l. c.).

DISTRIBUTION: also Kiangsu, Kiangsi, Hupeh, Szechuan, Hunan, Yunnan.

In northern China this species is probably cultivated wherever it has been collected and it is also often planted in other provinces of China as it is in Japan; its real home is apparently the Yangtsze valley from Hupeh to Szechuan.

Meratia praecox var. **grandiflora** Rehder & Wilson in Sargent, Pl. Wilson. i. 420 (1913).—Hers in Jour. N. China Branch R. As. Soc. LIII. 112 (1922); Liste Ess. Lign. Honan, 19 (1922).

HONAN: planted (ex Hers, l. c.).

This is a garden form, also occurring under cultivation in other provinces of China and in Japan.

LAURACEAE

Benzoin glaucum Siebold & Zuccarini in Abh. Akad. Muench. iv. pt. III. 205 (Fl. Jap. Fam. Nat. II. 81) (1846).—Bailey, Gent. Herb. i. 24 (1920).—Hers in Jour. N. China Branch R. As. Soc. LIII. 107 (1922); Liste Ess. Lign. Honan, 4 (1922).

Lindera glauca Blume, Mus. Bot. Lugd.-Bat. i. 325 (1850).—Faber, Denkschr. Entwickel. Kiautschou, 31 (1898).—Gilg in Bot. Jahrb. xxxiv. beibl. lxxv. 35 (1904).—Diels in Bot. Jahrb. xxxvi. beibl. lxxxii. 45 (1905).—Loesener in Bot. Centralbl. Beih. xxxvii. abt. ii. 125 (1919).

? *Litsea* vel *Lindera* spec. Gilg in Bot. Jahrb. xxxix. beibl. lxxxii. 35 (1904).—Loesener in Bot. Centralbl. Beih. xxxvii. abt. ii. 125 (1919).

SHANTUNG: Lau shan, *F. N. Meyer*, no. 318, August, 1907.—See also Faber, l. c., Gilg, l. c., and Loesener, l. c.

NORTHERN KIANGSU: Liu lin shan, near Hai chow, *J. Hers*, no. 629, May 4, 1921; Hai chow hills, alt. about 200 m., *J. Hers*, nos. 2268, 2313, October 8, 1922.

HONAN: Mien chih, alt. 800 m., *J. Hers*, no. 53, August 20, 1919; Hsiao hsien, Huang tsang yu, alt. about 200 m., *J. Hers*, nos. 1008, 1020, April 25 and no. 1035, May 26, 1919; Chikung shan, *L. H. Bailey*, June 7, 1917 (*Gray Herb.*).—See also Bailey, l. c., and Hers, l. c.

SHANSI: Hia hsien, Huang lai kow, *J. Hers*, no. 1850, October 2, 1921; Yuan kiu hsien, Ni shan, *J. Hers*, no. 1826, September 28, 1921.

SHENSI: Lean shan, *G. Giralddi*, no. 4011 (ex Diels, l. c.).

DISTRIBUTION: also Kiangsi, Chekiang, Fokien, Hupeh, Hunan, Szechuan; Korea, Japan, Formosa.

I have little doubt that the *Lindera* spec. from the Lau shan cited by Gilg and by Loesener is identical with Meyer's specimen from the same locality. Hers' nos. 629 and 2313 from near Haichow, Kiangsu, differ from typical *B. glaucum* in their narrower leaves slightly silky beneath when young, glabrous at maturity, and in the short glabrescent pedicels of the flowers appearing in few-flowered sessile umbels.

Benzoin umbellatum (Thunb.) Rehder in Jour. Arnold Arb. i. 146 (1919).—Hers in Jour. N. China Branch R. As. Soc. LIII. 107 (1922); Liste Ess. Lign. Honan, 4 (1922).

Lindera membranacea Maximowicz in Bull. Acad. Sci. St. Pétersb. xii. 72 (1867); in Mém. Biol. vi. 275 (1867).—Diels in Bot. Jahrb. xxix. 351 (1900).

Benzoin citriodorum Hers in Jour. N. China Branch R. As. Soc. LIII. 107 (1922); Liste Ess. Lign. Honan, 4 (1922).—Non Siebold & Zuccarini.

HONAN: Sung hsien, Shih tze miao, alt. 1200 m., *J. Hers*, nos. 486, 561, 583, May 26, 1919, no. 1261, September 25, 1919; Sung hsien, San kuan miao, alt. 1200 m., *J. Hers*, nos. 522, 540, May 24, 1919; Lushih, Hiung eul shan, alt. 1400 m., *J. Hers*, nos. 894, 895, 922, October 10, 1919; Lushih, Kiao ho, alt. 1000 m., *J. Hers*, nos. 971, 976, October 13, 1919; Lushih, Lao kiun shan, alt. 2000 m., *J. Hers*, nos. 1183, 1213, September 21, 1919; Tsi yuan hsien, *J. Hers*, no. 1750, September 21, 1921.—See also Hers, l. c.

SHENSI: Tai pei shan, *W. Purdom*, nos. 971, 973, 1910; Sze wu hsien, *F. N. Meyer*, no. 1720, September 1, 1914; Lung chow, Kuan shan, alt. 2000 m., *J. Hers*, no. 2344, July 3, 1922; "Shensi sept." *G. Giralddi*, 1897.—See also Diels, l. c.

KANSU: Chi shan, near Cheng hsien, *F. N. Meyer*, no. 1753, October 1, 1914 (*Herb. U. S. Dept. Agric.*).

DISTRIBUTION: also Chekiang, Hunan; Japan.

I have seen no flowering specimens of this species from northern China and therefore cannot be absolutely sure if the specimens cited above belong here, but in leaf and fruit they agree well with *B. umbellatum*.

Benzoin reflexum (Hemsley) Rehder in Jour. Arnold Arb. 1. 145 (1919).—Bailey, Gent. Herb. 1. 24 (1920).

HONAN: Chikung shan, *L. H. Bailey*, June 16, 1917 (Gray Herb.).—See also Bailey, l. c.

Benzoin fruticosum (Hemsley) Rehder in Jour. Arnold Arb. 1. 145 (1919).—Hers in Jour. N. China Branch R. As. Soc. LIII. 107 (1922); Liste Ess. Lign. Honan, 4 (1922).

HONAN: Sung hsien, Shih tze miao, *J. Hers*, no. 496, May 26, 1919; Sung hsien, San kuan miao, alt. 1200 m., *J. Hers*, no. 539, May 24, 1919; without precise locality, *J. Hers*, no. 40, 1918.—See also Hers, l. c.

The specimens cited above are all sterile and their determination therefore remains open to some doubt.

Benzoin cercidifolium Rehder in Jour. Arnold Arb. 1. 144 (1919).—Hers in Jour. N. China Branch R. As. Soc. LIII. 107 (1922); Liste Ess. Lign. Honan, 4 (1922).

Lindera cercidifolia Hemsley in Jour. Linn. Soc. xxvi. 387 (1891).—? Diels in Bot. Jahrb. xxxvi. beibl. LXXXII. 45 (1905).

HONAN: Sung hsien, Shih tze miao, *J. Hers*, no. 495, May 26, 1919; Sung hsien, San kuan miao, alt. 1200 m., *J. Hers*, no. 538, May 24, 1919; Lushih, Hiung eul shan, alt. 1400 m., *J. Hers*, no. 903, October 10, 1919; Lushih, Lao kiun shan, alt. 2000 m., *J. Hers*, nos. 1152, 1193, September 21, 1919; Tsi yuan hsien, Tien tan shan, *J. Hers*, nos. 1697, 1749, September 16 and 21, 1921; without precise locality, *J. Hers*, no. 35, 1918.—See also Hers, l. c.

SHENSI: *G. Giraldi* (ex Diels, l. c.).

DISTRIBUTION: also Kiangsi, Hupeh, Szechuan.

Possibly Giraldi's specimens from Shensi referred by Diels to *B. cercidifolium* represent the following species, at least the specimen with pubescent leaves; *B. cercidifolium* as far as I know has the leaves always quite glabrous except axillary tufts of hairs beneath.

Benzoin obtusilobum Kuntze, Rev. Gen. Pl. 1. 569 (1891).

Lindera obtusiloba Blume, Mus. Bot. Lugd.-Bat. 1. 325 (1850).—Loesener in Bot. Centralbl. Beih. xxxvii. abt. ii. 125 (1919).

Lindera obtusiloba var. *β. villosa* Meisner in De Candolle, Prodr. xv. pt. 1. 246 (1869).—Loesener in Bot. Centralbl. Beih. xxxvii. abt. ii. 125 (1919).

Lindera triloba Franchet in Mém. Soc. Sci. Nat. Cherbourg, xxiv. 250 (1884).—Hemsley in Jour. Linn. Soc. xxvi. 392 (1891).—Faber, Denkschr. Entwickel. Kiautschou, 31 (1898).—Gilg in Bot. Jahrb. xxxiv. beibl. LXXV. 35 (1904).—Non Blume.

? *Lindera cercidifolia* Diels in Bot. Jahrb. xxxvi. beibl. LXXXII. 45 (1905), tandem pro parte.—Vix Hemsley.

SHANTUNG: Lau shan, *F. N. Meyer*, no. 2588, August, 1907.—See also Franchet, l. c., Hemsley, l. c., Faber, l. c., Gilg, l. c., and Loesener, l. c.

NORTHERN KIANGSU: Liu lin shan, near Hai chow, *J. Hers*, no. 661, May 5, 1921; Hai chow hills, alt. 200 m., *J. Hers*, no. 2277, October 8, 1922.

SHENSI: southern slope of Tai pei shan, *W. Purdom*, no. 669^a, 1910; Tai pei shan, *W. Purdom*, no. 972, 1910.—See also Diels.

KANSU: near Fu orr yei, *F. N. Meyer*, no. 1974, October 7, 1914.

DISTRIBUTION: also Hupeh, Szechuan; Korea, Japan.

As stated above Giraldi's specimens referred to the preceding species by Diels probably belong here.

Machilus spec.? Faber, Denkschr. Entwickel. Kiautschou, 31 (1898).—Gilg in Bot. Jahrb. xxxiv. beibl. lxxv. 35 (1904).—Loesener in Bot. Centralbl. Beih. xxxvii. abt. ii. 125 (1919).

As this reference apparently is not based on any existing specimens, its identification remains doubtful.

SAXIFRAGACEAE

Philadelphus pekinensis Ruprecht in Bull. Phys.-Math. Acad. Sci. St. Pétersb. xv. 365 (1857); Mém. Biol. ii. 543 (1858).—Koehne in Gartenfl. xl. 597 (1896).—Bretschneider, Hist. Eur. Bot. Discov. China, 349, 1054 (1898).—Limpricht, Bot. Ergeb. Reis. Hochgeb. Chin. Ost-Tib. 402 (1922).

Philadelphus coronarius Turczaninow in Bull. Soc. Nat. Moscou, x. no. vii. 151 (1837).—Maximowicz in Mém. Div. Sav. Acad. Sci. St. Pétersb. ix. 471 (Ind. Fl. Pekin.) (1859).—Franchet in Nouv. Arch. Mus. Paris, sér. 2, vi. 5 (Pl. David, i. 125) (1883).

Philadelphus coronarius ζ. *pekinensis* Maximowicz in Mém. Acad. Sci. St. Pétersb. sér. 7, x. no. xvi. 42 (1867).—Hemsley in Jour. Linn. Soc. xxiii. 277 (1887).

CHILI: Jehol, *A. David*, no. 2219 (Gray Herb.); Peking, western hills, *J. Hers*, no. 2225, October 11, 1922, and no. 2515, June 10, 1923; Po hua shan, *J. Hers*, nos. 1462, 1680, July 1 and September 9, 1921; hills near Great Wall, Peking-Kalgan road, *J. G. Jack*, October 5, 1905; Hsiao Wu tai shan, open mountain slopes, *F. N. Meyer*, no. 1304, August 23, 1913; same locality, *J. Hers*, no. 1476, July 14, 1921; Hsiao Wu tai shan, Shiu shih tao, alt. 1500 m., *J. Hers*, nos. 2183, 2185, October 8, 1923; Miao feng shan, alt. 1000 m., *J. Hers*, no. 2539, June 18, 1923; Weichang, *W. Purdom*, no. 83, 1910; without locality, *Père Chagnet*, no. 61, 1919; *W. Purdom*, no. 552 (seeds only; plants growing in the Arnold Arboretum).—See also Turczaninow, l. c., Ruprecht, l. c., Franchet, l. c., Maximowicz, l. c., Hemsley, l. c., Koehne, l. c., and Limpricht, l. c.

SHANSI: Wu chai hsien, Ta nan kow, alt. 2000 to 3000 m., *Tchuang Kieh*, *Hers* no. 2002, September 7, 1922; Wu tai shan, alt. 2600 m., *J. Hers*, no. 2642, July 31, 1923; Fang shan hsien, Nan yang shan, alt. 1500 to 2500 m., *J. Hers*, no. 2704, September 22–30, 1923.

SHENSI: Moutan shan, northwest of Hancheng Hsien, *W. Purdom*, no. 369, 1910.

DISTRIBUTION: also Manchuria.

The specimens cited above show some variation in the size of the flowers,

the petals varying between 1 cm. and 1.5 cm. in length, in the density of the inflorescence which may be very crowded with short pedicels 2–3 mm. long or slenderer, the lowest pairs of flowers about 2 cm. distant and the pedicels up to 6 mm. long, as in Hers' no. 1476 and in Purdom's no. 369, and in the pubescence of the leaves which may be perfectly glabrous or more or less bearded in the axils of the veins beneath and ciliate with long white hairs near the base; the specimen from Shensi is even more pubescent; the lower leaves are setose-pilose along the veins and even sparingly so on the under surface, the upper leaves which are rather narrow are nearly glabrous. The leaves also vary in size and somewhat in shape, being sometimes, particularly on vigorous shoots, rounded or nearly subcordate at base as in nos. 2225, 2642 and 2704.

These specimens with rounded to subcordate leaves make it probable that *P. rubricaulis* Carrière (in Rev. Hort. 1870–71, 460 [1871]) belongs here, the description, incomplete as it is, agrees well with *P. pekinensis*, but the description of the leaves as "cordiformes" seemed to be against this identification; the plant described was raised from seed sent by E. Simon from China, and probably from Peking from where he introduced a number of other plants to France.

Philadelphus pekinensis var. *dasycalyx* Rehder in Jour. Arnold Arb. 1. 197 (1920).—Hers in Jour. N. China Branch R. As. Soc. LIII. 113 (1922); Liste Ess. Lign. Honan, 20 (1922).

HONAN: Hwei hsien, Shansi border, *J. Hers*, no. 713, June 19, 1919.—See also Rehder, l. c., and Hers, l. c.

SHANSI: Nan Yang shan, alt. 1500–2500 m., *J. Hers*, no. 2729, September 22–30, 1923.

The specimen from Shansi differs from the type in the broader ovate leaves mostly rounded at base and in the elongated inflorescence, the lowest pairs of flowers being 2.5–3 cm. distant.

Philadelphus laxiflorus, sp. nov.

Frutex 2–3-metralis; cortex ramulorum biennium cinereo-brunneus vel fere castaneus lamellis tenuibus solubilis; ramuli juveniles fusci glabri. Folia (ramulorum florentium tantum adsunt) elliptico-ovata vel elliptico-oblonga, 3–5.5 cm. longa et 1.6–2.5 cm. lata, acuminata, basi late cuneata, supra obscure viridia pilis brevibus setosis satis dense oblecta, subtus glaucescentia, ad venas primarias sparse setoso-pilosa et in axillis pilis longis albidis barbata, ceterum glabra, margine setoso-ciliolata et minute remoteque denticulata denticulis ad mucronem callosum reductis; petioli circiter 5 mm. longi, glabri vel sparsissime pilosi. Racemi 6–12 cm. longi, laxi, 9–11-flori, axi glabro, ramulos plerosque foliorum paria tria ex quibus duo florifera gerentes terminantes; pedicelli inferiora 6–8 mm. longi, ceteri apicem versus decrescentes; sepala elliptico-ovata, 7 mm. longa, acuminata, extus ut ovarium campanulatum 4 mm. longum glabra, intus marginem et apicem versus tomentosa, medio glabrata; petala ovali-orbicularia, 1.6

cm. longa, stamina 30–35, 6–10 mm. longa, longiora stylum et dimidiam partem petalorum superantia; discus satis planus, glaber; stylus 8 mm. longus, glaber, ad medium divisus; stigmata antheris angustiora et secus marginem anteriorem eis paullo longiora.

SHENSI: valleys of Tai pei shan, *W. Purdom*, no. 439, June 30, 1910.

This species seems most nearly related to *P. pekinensis* Rupr. and *P. nepalensis* Koehne, but from both it is readily distinguished by the short-pilose and scabrid upper surface of the leaves and the deeply divided style, also by the longer and looser inflorescence with 9 to 11 flowers and by the larger flowers. In the pubescence of the leaves it resembles *P. sericanthus* Koehne, but that species has a pubescent calyx and the style divided only at the apex. *Philadelphus laxiflorus* is without doubt a very ornamental species, but has not yet been introduced into cultivation.

Philadelphus incanus Koehne in *Gartenfl.* XLV. 562 (1896), excl. no. 8823 Henryi.—Hers in *Jour. N. China Branch R. As. Soc.* LIII. 113 (1922); *Liste Ess. Lign. Honan*, 20 (1922).

Philadelphus subcanus Hers in *Jour. N. China Branch R. As. Soc.* LIII. 113 (1922); *Liste Ess. Lign. Honan*, 20 (1922).—Non Koehne.

HONAN: Yung ning, Tsi li ping, about 1100 m., *J. Hers*, no. 402, May 22, 1919; Tsi yuan hsien, Tien tan shan, *J. Hers*, no. 1783, September 21, 1921 (sterile); Sung hsien, San kuan miao, *J. Hers*, no. 542, May 24, 1919; Lushih, Tung ho, alt. 1000 m., *J. Hers*, no. 985, October 14, 1919.—See also Hers, l. c.

SHENSI: Kan y san, Kin qua san and Lao y san, *G. Giraldis*, June 12, July 10 and September 6, 1897.

DISTRIBUTION: also Hupeh.

The specimens under no. 542 and no. 985 differ in their less pubescent leaves from the type and had been tentatively referred to *P. subcanus*, but the character of the pubescence is the same as in *P. incanus* which seems to be a very variable species.

Philadelphus incanus var. *Baileyi* Rehder in *Bailey, Gent. Herb.* I. 27 (1920).

HONAN: Chi kung shan, alt. 500–800 m., *L. H. Bailey*, June 13, 1917.—See also Bailey, l. c.

Philadelphus sericanthus Koehne in *Gartenfl.* XLV. 561 (1896); in *Bot. Jahrb.* XXIX. 371 (1900).

SHENSI: In kia p'u, *G. Giraldis*, no. 1655 (ex Koehne, l. c.).

KANSU: Choni district, alt. 3000 m., *W. Purdom*, no. 1021, 1910.

DISTRIBUTION: also Hupeh, Szechuan.

Purdom's specimen from Kansu differs in the flaky bark and in the glaucescent underside of the leaves and may possibly represent a distinct species related to *P. laxiflorus* from which it differs, however, markedly in the pubescent calyx, the only slightly pubescent upper surface of the leaves and the slightly divided style.

Deutzia scabra Thunberg, Fl. Jap. 185 (1784).—Loesener in Bot. Centralbl. Beih. xxxvii. abt. II. 129 (1919).

SHANTUNG: Tsingtau, probably cultivated (ex Loesener, l. c.).

DISTRIBUTION: Japan.

Deutzia discolor Hemsley in Jour. Linn. Soc. xxiii. 275 (1887).—Engler in Bot. Jahrb. xxix. beibl. lxxxii. 51 (1905).

SHENSI: Tai pei shan, W. Purdom, no. 1000, 1910.—See also Engler, l. c.

DISTRIBUTION: also Hupeh, Szechuan, Yunnan.

Deutzia albida Batalin in Act. Hort. Petrop. xiii. 97 (1893).—Bretschneider, Hist. Eur. Bot. Discov. China, 1028 (1898).—Rehder in Sargent, Pl. Wilson. I. 21 (1913).

Deutzia discolor var. *albida* Schneider in Mitt. Deutsch. Dendr. Ges. xiii. 183 (1904).

KANSU: Pao dji, F. N. Meyer, no. 1996, November 6, 1914 (Herb. U. S. Dept. Agric.); on the river Pei shui between Lidshapu and Kwan tin, G. Potanin, 1885 (ex Batalin, l. c., Schneider, l. c., and Rehder, l. c.).

Meyer's no. 1996 consists only of detached and partly broken leaves apparently collected from under the bushes after they had fallen and their determination is open to doubt, particularly so as I have no material for comparison; they agree with Batalin's description, but are larger, measuring up to 7 cm. in length and to 4 cm. in width.

Deutzia Vilmorinae Lemoine, Cat. no. 158, p. 7, fig. (1904).—Schneider in Mitt. Deutsch. Dendr. Ges. xiii. 182 (1904).

SHENSI: "Lao-y-san," June 4, 1897, and "Ta-sce-tsuen," September 18, G. Giraldi.

DISTRIBUTION: also Hupeh.

Deutzia grandiflora Bunge in Mém. Div. Sav. Acad. Sci. St. Pétersb. II. 104 (Enum. Pl. Chin. Bor. 50) (1833).—Turczaninow in Bull. Soc. Nat. Moscou, x. no. vii. 152 (1837).—Walpers, Rep. II. 152 (1843).—Maximowicz in Mém. Div. Sav. Acad. Sci. St. Pétersb. ix. 471 (Ind. Fl. Pekin.) (1859); in Mém. Acad. Sci. St. Pétersb. sér. 7, x. no. xvi. 30, t. 3, fig. 1-13 (1867); in Bull. Soc. Nat. Moscou, LIV. 21 (1879).—Hance in Jour. Bot. xiii. 132 (1875).—Franchet in Nouv. Arch. Mus. Paris, sér. 2, VI. 5 (Pl. David. I. 125) (1883); in Mém. Soc. Sci. Nat. Cherbourg, xxiv. 217 (1884).—Hemsley in Jour. Linn. Soc. xxiii. 276 (1887).—Bretschneider, Hist. Eur. Bot. Discov. China, 53, 333 (1898).—Rehder in Sargent, Pl. Wilson. I. 21 (1913).—Bailey, Gent. Herb. I. 27 (1920).—Hers in Jour. N. China Branch R. As. Soc. LIII. 109 (1922); Liste Ess. Lign. Honan, 11 (1922).

Deutzia grandiflora var. *β. minor* Maximowicz in Mém. Acad. Sci. St. Pétersb. sér. 7, x. no. xvi. 31 (1867).—Palibin in Act. Hort. Petrop. xiv. 119 (1895).—Rehder in Sargent, Pl. Wilson. I. 21 (1913).

Deutzia grandiflora var. *α. typica* Schneider in Mitt. Deutsch. Dendr. Ges. xiii. 184 (1904).

CHILI: Weichang, *W. Purdom*, nos. 16, 1068, 1910; near San tung ying, *F. N. Meyer*, no. 953, May 29, 1913; western hills near Peking, *W. Purdom*, no. 1069, 1910; same locality, *J. Hers*, nos. 1398, 1578, May 15 and August 7, 1921; hills near Great Wall, Kalgan road, *J. G. Jack*, October 5, 1905; Nankow pass, *J. Hers*, no. 1603, August 15, 1921; Miao feng shan, alt. 1000 m., *J. Hers*, no. 2531, June 17, 1923; "Chin. bor.," ex Herb. Bunge (Gray Herb.).—See also Bunge, l. c., Turczaninov, l. c., Walpers, l. c., Maximowicz, l. c. (1859 and 1867), Hance, l. c., Franchet, l. c. (1883), Hemsley, l. c., Bretschneider, l. c., Schneider, l. c., Rehder, l. c., Bailey, l. c., and Palibin, l. c.

Shantung: Chifu (ex Maximowicz, l. c. [1879], and Franchet, l. c. [1884]).

DISTRIBUTION: also Hupeh, Manchuria.

I do not think that Maximowicz's var. *minor* can be retained as a distinct variety; the material upon which the variety is based probably came from stunted plants as the description seems to indicate. There is considerable variation in the size of the leaves and of the flowers and in the length of the style, apparently without correlation.

Deutzia grandiflora var. *glabrata* Maximowicz in Mém. Acad. Sci. St. Pétersb. sér. 7, x. no. xvi. 31 (1867).—Schneider in Mitt. Deutsch. Dendr. Ges. xiii. 184 (1904).—Rehder in Sargent, Pl. Wilson. i. 22 (1913).

Deutzia Baroniana Diels in Bot. Jahrb. xxix. 372 (1900).

Deutzia grandiflora var. *Baroniana* Rehder in Sargent, Pl. Wilson. i. 21 (1913).—Limpricht, Bot. Reis. Hochgeb. Chin. Ost-Tib. 402 (1922).—Hers in Jour. N. China Branch R. As. Soc. LIII. 109 (1922); Liste Ess. Lign. Honan, 11 (1922).

Deutzia grandiflora Hers, l. c.

CHILI: Peking, western hills, *J. Hers*, no. 1617, September 5, 1921; Po hua shan, *J. Hers*, nos. 1406, 1416, May 1, 1921; Hsiao Wu tai shan, *F. N. Meyer*, no. 1230^a, August 20, 1913; Ta hung men, *J. Hers*, no. 2216, October 10, 1922; near Peking, *Tatarinov*, (fragments from Herb. St. Petersb.).—See also Maximowicz, l. c., Schneider, l. c., Rehder, l. c., and Limpricht, l. c.

HONAN: Teng feng hsien, Yu tai shan, alt. about 800 m., *J. Hers*, no. 202, April 23, 1919; Yu tai shan, *J. Hers*, nos. 319 and 323, April 20 and April, 1920; Hwei hsien, Ta fu sze, *J. Hers*, no. 747, June 16, 1919; Yung ning, Yo tze ping, alt. 1000 m., *J. Hers*, no. 835, October 5, 1919; Yung ning, Chuan pao shan, alt. 1500 m., *J. Hers*, no. 1109, October 17, 1919; Sung hsien, San kuan miao, alt. 1000 m., *J. Hers*, no. 1318, September 27, 1919; Tsi yuan hsien, alt. 500 m., *J. Hers*, no. 2653, August 22, 1923.—See also Hers, l. c.

SHENSI: "Ta sce tsuen," *G. Giralidi*, September 19, 1897; "Huo kia zaez," *G. Giralidi*, no. 2519; northwest of Han chung hsien, *W. Purdom*, no. 999, 1910.—See also Diels, l. c., Schneider, l. c., and Rehder, l. c.

With the copious material before me I am unable to distinguish between var. *glabrata* and var. *Baroniana*; there are all intergradations present between leaves which have the underside fairly densely covered with

stellate hairs and those with scattered stellate hairs; in the latter case the hairs have usually more (6-9) and shorter rays and are more regularly stellate while in specimens with denser pubescence the hairs have fewer (4-7) rays often elongated and with a central ray developed, particularly those on the veins which gives to the pubescence a pilose character.

Deutzia prunifolia Rehder in Sargent, Pl. Wilson. I. 22 (1913).—Loesener in Bot. Centralbl. Beih. xxxvii. abt. II. 130 (1919).

Deutzia parviflora Cowdry in Jour. N. China Branch R. As. Soc. LIII. 164 (Pl. Peitaiho) (1922).—Non Bunge.

CHILI: Lotus hills, Pei tai ho, common, *N. H. Cowdry*, no. 157, May 28, 1919.—See also Cowdry, l. c.

SHANTUNG: Tai shan, *J. Hers*, no. 1925, June 18, 1922.—See also Loesener, l. c.

NORTHERN KIANGSU: Liu lin shan, near Hai chow, *J. Hers*, nos. 606, 614, 649, May 5, 1921.

DISTRIBUTION: also Korea.

Like the preceding this species varies greatly in the size of the flowers in the same locality as in *Hers*' specimens from the hills near Hai chow of which nos. 614 and 649 have the petals 10-12 mm. long, while in no. 606 they are 18 mm. long.

Deutzia hamata Koehne in Bot. Jahrb. xxxiv. beibl. Lxxv. 37 (1904).—Rehder in Sargent, Pl. Wilson. I. 22 (1913).—Loesener in Bot. Centralbl. Beih. xxxvii. abt. II. 130, t. 5, fig. F-J (1919).

SHANTUNG: Lau shan (ex Koehne, l. c., and Loesener, l. c.).—See also Rehder, l. c.

The chief distinguishing character of this species, the peculiar rim-like excrescence of the disk on the inside of the stamens is very pronounced in Koehne's original drawing of which the author kindly sent me a copy in 1913, being strongly incurved and covering the larger part of the top of the ovary, while in the figure cited above this rim is much shorter and upright, and similar, only somewhat higher, to the corresponding structure found in *D. grandiflora* and *D. prunifolia*.

Deutzia parviflora Bunge in Mém. Div. Sav. Acad. Sci. St. Pétersb. II. 105 (Enum. Pl. Chin. Bor. 51) (1833).—Turczaninov in Bull. Soc. Nat. Moscou, x. no. VII. 152 (1837).—Walpers, Rep. II. 152 (1843).—Maximowicz in Mém. Div. Sav. Acad. Sci. St. Pétersb. IX. 471 (Ind. Fl. Pekin.) (1859); in Mém. Acad. Sci. St. Pétersb. sér. 7, x. no. XVI. 33, t. 3, fig. 18-23 (1867).—Hance in Jour. Bot. XIII. 132 (1875).—Franchet in Nouv. Arch. Mus. Paris, sér. 2, VI. 5 (Pl. David. I. 124) (1883).—Hemsley in Jour. Linn. Soc. XXIII. 276 (1887).—Bretschneider, Hist. Eur. Bot. Discov. China, 53, 333, 1054 (1898).—Rehder in Sargent, Pl. Wilson. I. 23 (1913).—Limpricht, Bot. Reis. Hochgeb. Chin. Ost-Tib. 402 (1922).

Deutzia parviflora α. *Bungei* Franchet in Jour. de Bot. x. 283 (1896).

Deutzia parviflora β. *mongolica* Franchet, l. c.

Deutzia corymbosa var. *parviflora* Schneider in Mitt. Deutsch. Dendr. Ges. xiii. 184 (1904).

CHILI: Weichang, *W. Purdom*, no. 40, 1910; Peking, western hills, *J. Hers*, no. 1618, September 5, 1921; Po hua shan, *J. Hers*, nos. 1442, 1474, July 1 and 14, 1921; Hsiao Wu tai shan, *F. N. Meyer*, no. 1230, August 20, 1913; *J. Hers*, nos. 1496 and 1553, July 14, 1921; *N. H. Cowdry*, no. 1662, July 13, 1921; Hsiao Wu tai shan, Tieh ling sze, alt. 1300 m., *J. Hers*, no. 2138, October 7, 1922; Hsiao Wu tai shan, Shui shih tao, alt. 1500 m., *J. Hers*, nos. 2161, 2163, October 8, 1922; Tung ling Mountains, *N. H. Cowdry*, no. 1324, May, 1921, and no. 2150, May 18, 1921; without precise locality, *Père Chanet*, nos. 5, 1918, and 57, 1919.—See also Bunge, l. c., Turczaninow, l. c., Walpers, l. c., Maximowicz, l. c., Hance, l. c., Franchet, l. c., Hemsley, l. c., Rehder, l. c., and Limpricht, l. c.

HONAN: Tsi yuan hsien, alt. 500 m., *J. Hers*, no. 2661, August 24, 1923; Tsi yuan hsien, Tien tan shan, *J. Hers*, nos. 1743, 1744, 1898, September 21, 1921; Yung ning, Tsi li ping, *J. Hers*, no. 1377, September 30, 1919.

KANSU: south of the Hoang ho, *P. J. Piasezki* (ex Hemsley, l. c.).

DISTRIBUTION: also Manchuria.

For geographical reasons it is probable that the Kansu plant belongs to the var. *micrantha*.

Deutzia parviflora var. *ovatifolia* Rehder in Jour. Arnold Arb. 1. 210 (1920).

CHILI: Weichang, *W. Purdom*, no. 40 (in part), 1910.

This variety which is based on cultivated plants raised from seed sent by *W. Purdom* under no. 40 differs chiefly in its distinctly ovate leaves, rounded or truncate at the base and very sparingly stellate-pubescent above and glabrous beneath; in the latter character it agrees with *Franchet's* var. *Bungei* but that variety, as its name implies, is based on the type of *D. parviflora* which has oblong-obovate leaves according to *Bunge's* description.

Deutzia parviflora var. *micrantha*, var. nov.

Deutzia micrantha Engler in Bot. Jahrb. xxxvi. beibl. lxxxii. 51 (1905).—Rehder in Sargent, Pl. Wilson. 1. 23 (1913).

SHENSI: Tsin ling shan, *G. Giraldis*, no. 7179 (photograph in herb. Arnold Arb.); In-kia-po, *G. Giraldis*, June 4, 1897; Kin-san, *G. Giraldis*, 1897; Tai pei shan, *W. Purdom*, no. 1040, 1910; "monte Lun-san-huo" *G. Giraldis*, no. 783, May 23, 1892.—See also Engler, l. c., and Rehder, l. c.

There are apparently no constant characters to separate *D. micrantha* Engl. as a species from *D. parviflora* with which unfortunately Engler did not compare it; according to the specimens cited above the variety may be distinguished by its generally smaller flowers with petals 3.5–5 mm. long, and by the denser pubescence of the underside of the leaves which are elliptic-ovate to ovate-lanceolate or oblong-lanceolate and cuneate at base. The stellate hairs have 7–11 rays and are often so close as to touch each other; particularly near the veins they often develop an

elongated central ray usually with a corresponding reduction of the lateral rays, which gives a pilose appearance to the pubescence. The pubescence is very dense in Giral-di's specimens from In-kia-po and from Kin-san and rather scattered in Purdom's specimens from the Tai pei shan. In typical *D. parviflora* the pubescence of the underside of the leaves is usually very slight and sometimes nearly wanting. The size of the flowers affords no clear distinction as e. g. Komarov's no. 836 from Manchuria and part of Purdom's no. 40 from Chili have flowers with petals not exceeding 5 mm. in length.

As stated under *D. parviflora* Piasezki's specimens from Kansu referred by Hemsley to *D. parviflora* probably belong here.

Deutzia corymbosa R. Brown apud Royle, Ill. Bot. Himal. 216, t. 46, fig. 2 (1839).—Diels in Bot. Jahrb. xxix. 371 (1900).—Engler in Bot. Jahrb. xxxvi. beibl. lxxxii. 51 (1905).

SHENSI: Tui kio shan, *G. Giral-di*, no. 1120 (ex Diels, l. c.) and Ki fon shan, *G. Giral-di*, no. 4504 (ex Engler, l. c.).

It is very doubtful if these specimens belong to *D. corymbosa* R. Br. It is more likely that they are referable to *D. parviflora* and probably to *D. parviflora* var. *micrantha*.

Deutzia glabrata Komarov in Act. Hort. Petrop. xxii. 433 (1903).—Schneider in Mitt. Deutsch. Dendr. Ges. xiii. 185 (1904).—Rehder in Sargent, Pl. Wilson. i. 24 (1913).—Loesener in Bot. Centralbl. Beih. xxxvii. abt. ii. 130 (1919).

Deutzia glaberrima Koehne in Bot. Jahrb. xxxiv. beibl. lxxxii. 38 (1904).

SHANTUNG: Lau shan (ex Schneider, l. c., Koehne, l. c., Rehder, l. c., and Loesener, l. c.).

DISTRIBUTION: also Korea.

Deutzia hypoglaucula Rehder in Sargent, Pl. Wilson. i. 24 (1913).

SHENSI: valley leading to Tai pei shan, alt. about 2500 m., *W. Purdom*, no. 428, 1910.

DISTRIBUTION: also Hupeh, Yunnan (*Delavay*, no. 986).

Hydrangea Bretschneideri Dippel, Handb. Laubholzk. iii. 320 (1893).—Rehder in Sargent, Pl. Wilson. i. 38 (1913).

Hydrangea pubescens "Dne?" Maximowicz in Mém. Div. Sav. Acad. Sci. St. Pétersb. ix. 472 (Ind. Fl. Pekin.) (1859).—Non Decaisne.

Hydrangea vestita var. *pubescens* Maximowicz in Mém. Acad. Sci. St. Pétersb. x. no. xvi. 10 (1867), excl. synonym. Decaisne.—Franchet in Nouv. Arch. Mus. Paris, sér. 2, vi. 5 (Pl. David. i. 124) (1883).—Sargent in Gard. & Forest, iii. 17, fig. 3 (1890).—Palibin in Act. Hort. Petrop. xiv. 119 (1895).—Bretschneider, Hist. Eur. Bot. Discov. China, 348, 565, 1054 (1898).

Hydrangea vestita Hemsley in Jour. Linn. Soc. xxiii. 274 (1887).—Non Wallich.

CHILI: Weichang, *W. Purdom*, no. 76^a, 1910; Po hua shan, *J. Hers*, nos. 1448 and 1672, July 1 and September 9, 1921; Hsiao Wu tai shan,

J. Hers, nos. 1478 and 1560, July 14 and July 16, 1921; *F. N. Meyer*, no. 1322, August 23, 1913; Hsiao Wu tai shan, Shui shih tao, alt. 1500 m., *J. Hers*, no. 2150, October 8, 1922; Tung ling, *B. E. Read*, no. 103 (Herb. N. E. Cowdry, no. 2203); without precise locality, *Père Ch Janet*, no. 58, 1919.—See also Rehder, l. c., Maximowicz, l. c., Franchet, l. c., Hemsley, l. c., and Palibin, l. c.

KANSU: Min chow, *W. Purdom*, no. 1020, 1910; Choni district, *W. Purdom*, no. 1131, 1910.

The original description of this species was based on cultivated plants raised from seed distributed by Dr. Bretschneider about 1880.

Hydrangea Bretschneideri var. *glabrescens* Rehder in Mitt. Deutsch. Dendr. Ges. XXI. 186 (1912).—Limpricht Bot. Reis. Hochgeb. Chin. Ost.-Tib. 402 (1922), as forma.

Hydrangea serrata Koehne, Deutsche Dendr. 189 (1893).—Non De Candolle.

Hydrangea xanthoneura var. *glabrescens* Rehder in Bailey, Cycl. Am. Hort. II. 784 (1900).

CHILI: Weichang, *W. Purdom*, no. 76, 1910; Hsiao Wu tai shan, *J. Hers*, no. 1484, July 14, 1921; without precise locality, *W. Purdom*, no. 978, 1910; *Père Ch Janet*, no. 26, 1918.—See also Limpricht, l. c.

SHANSI: Wu tai shan, alt. 1600 m., *J. Hers*, no. 2632, July 29, 1923; Wu chai hsien, Ta nan kow, alt. 2000–3000 m., *Tchuang Kieh*, *Hers* no. 2031, September 7, 1922.

SHENSI: Tsing ling shan (ex Limpricht, l. c.).

This, like the type of the species, was originally described from cultivated plants raised from seed sent by Dr. Bretschneider. It should perhaps be considered a form, as proposed by Limpricht, rather than a variety.

Hydrangea xanthoneura Diels var. *Wilsonii* Rehder in Sargent, Pl. Wilson. I. 27 (1913).

HONAN: Tsi yuan hsien, Tien tan shan, *J. Hers*, nos. 1752, 1761, September 21, 1921.

SHENSI: Kin qua san, *G. Giralddi*, July 10, 1897; Kian san, *G. Giralddi*, August 4, 1897; without precise locality, *G. Giralddi*, 1897; Tai pei shan, *W. Purdom*, no. 976, 1910.

DISTRIBUTION: also Hupeh, Szechuan, Yunnan.

Hydrangea xanthoneura var. *setchuenensis* Rehder in Mitt. Deutsch. Dendr. Ges. XXI. 186 (1912).

Hydrangea Giralddi Diels in Bot. Jahrb. XXIX. 373 (1900).

Hydrangea Bretschneideri var. *setchuenensis* Rehder in Sargent, Pl. Wilson. I. 28 (1913).

Hydrangea Bretschneideri var. *Giralddi* Rehder, l. c. 39 (1913).

SHENSI: various localities, *G. Giralddi* (ex Diels, l. c.).

DISTRIBUTION: also Hupeh, Szechuan.

There seems to be no reliable character to distinguish *H. Giralddi* Diels of which I have seen no specimen except a photograph of one of the types from *H. xanthoneura* var. *setchuenensis*; the fact that the leaves of the

latter are usually rounded at base and those of the former cuneate can hardly be considered a sufficient character and moreover the shape of the base is not constant as no. 1323 of var. *setchuenensis* shows which has cuneate leaves. All the specimens of Giralaldi's collection received from the Herbarium in Florence under the name *H. Giralalii* had the underside of the leaves nearly glabrous and have been referred here to the preceding variety.

Hydrangea xanthoneura and *H. Bretschneideri* are very closely related and both vary with pubescent and glabrescent leaves; the only reliable character to distinguish these two species is apparently the behavior of the bark which, in *H. Bretschneideri*, separates the second year in thin large flakes and is of chestnut-brown color without or with few inconspicuous lenticels, while in *H. xanthoneura* the bark adheres to the branch, is conspicuously lenticellate and varies from yellowish gray to red-brown in color.

Hydrangea longipes Franchet in Nouv. Arch. Mus. Paris, sér. 2, VIII. 228 (Pl. David. II. 45) (1885).—Rehder in Sargent, Pl. Wilson. I. 33 (1913).—Hers in Jour. N. China Branch R. As. Soc. LIII. 111 (1922); Liste Ess. Lign. Honan, 11 (1922).

Hydrangea Hemsleyana Diels in Bot. Jahrb. XXIX. 376 (1900).

HONAN: Sung hsien, San kuan miao, *J. Hers*, no. 551, May 24, 1919; Lushih, Hiung eul shan, alt. 1400 m., *J. Hers*, no. 938, October 10, 1908.—See also Hers, l. c.

SHENSI: Kin quan san, *G. Giralaldi*, July 10, 1897; Tai pei shan, *W. Purdom*, no. 977, 1910.—See also Diels, l. c.

DISTRIBUTION: also Hupeh, Szechuan.

Hydrangea Rosthornii Diels in Bot. Jahrb. XXIX. 374 (1900).

HONAN: Lushih, Hiung eul shan, alt. 1300 m., *J. Hers*, no. 871, October 9, 1919.

DISTRIBUTION: also Szechuan.

Hers' specimen referred here to *H. Rosthornii* may possibly be nothing but a very vigorous and more pubescent form of *H. longipes* but it certainly matches better the material of *H. Rosthornii* before me than that of *H. longipes*. As in the case of *H. Bretschneideri* and *H. xanthoneura* we have here a group of closely related very variable species namely *H. strigosa* Rehd., *H. longipes* and *H. Rosthornii*, which though very distinct in their extreme forms seem to merge into each other and are difficult to define.

Hydrangea macrophylla De Candolle, Prodr. IV. 15 (1830).—Wilson in Jour. Arnold Arb. IV. 234 (1923).

Hydrangea "Hortensie" Faber in Denkschr. Entwickel. Kiautschou, 31 (1898).

Hydrangea spec. "Hortensie" Gilg & Koehne in Bot. Jahrb. XXXIV. beibl. LXXV. 39 (1904).—Loesener in Bot. Centralbl. Beih. XXXVII. abt. II. 130 (1919).

SHANTUNG: cultivated (ex Faber, l. c., Gilg & Koehne, l. c., and Loesener, l. c.).

Ribes manshuricum Komarov in Act. Hort. Petrop. xxii. 437 (Fl. Mansh. II. pt. 2) (1904).—Janczewski in Mém. Soc. Phys. Hist. Nat. Genève, xxxv. 274 (Monog. Groseill.) (1907).

Ribes multiflorum γ. *mandshuricum* Maximowicz in Mém. Biol. ix. 229 (1873); in Bull. Acad. Sci. St. Pétersb. xix. 258 (1874).

Ribes petraeum var. *mongolica* Franchet in Nouv. Arch. Mus. Paris, sér. 2, vi. 7 (Pl. David. i. 127) (1883).

Ribes multiflorum Hemsley in Jour. Linn. Soc. xxiii. 279 (1887).—Janczewski in Bot. Jahrb. xxxvi. beibl. lxxxii. 52 (1905).—Non Kitaibel.

Ribes petraeum Hemsley in Jour. Linn. Soc. xxiii. 280 (1887).—Non Wulfen.

CHILI: Weichang, *W. Purdom*, nos. 10, 81, 1910 (flowers and fruits); Hsiao Wu tai shan, *J. Hers*, no. 1473, July 14, 1921; without precise locality, *Père Chanut*, no. 53, 1919.—See also Janczewski, l. c. (1907), Maximowicz, l. c., Franchet, l. c., and Hemsley, l. c.

HONAN: Tsi yuan hsien, Tien tan shan, *J. Hers*, no. 1700, September 17, 1921 (sterile, doubtful).

SHENSI: without precise locality, *G. Giraldis*, 1897.—See also Janczewski, l. c. (1907 and 1905).

DISTRIBUTION: also Manchuria, Korea.

Ribes moupinense Franch. var. *tripartitum* Janczewski in Mém. Soc. Phys. Hist. Nat. Genève, xxxv. 300 (Monog. Groseill.) (1907).

Ribes tripartitum Batalin in Act. Hort. Petrop. xi. 488 (1890).—Bretschneider, Hist. Eur. Bot. Discov. China, 1028 (1898).

Ribes moupinense Janczewski in Bot. Jahrb. xxxvi. beibl. lxxxii. 51 (1905), quoad plantam e Shensi.—Vix Franchet.

SHENSI: *G. Giraldis* (ex Janczewski, l. c. [1907 and 1905]).

KANSU: *G. N. Potanin* (ex Batalin, l. c.).

DISTRIBUTION (of the whole species): also Hupeh, Szechuan, and Yunnan.

Ribes latifolium Janczewski in Bull. Acad. Cracovie Cl. Sci. Nat. 1906, 4 (Spec. Gen. Ribes, II.); in Mém. Soc. Phys. Hist. Nat. Genève, xxxv. 294 (1907).

CHILI: *E. Bodinier*, no. 44 (ex Janczewski, l. c. [1907]).

DISTRIBUTION: also Manchuria, Saghalin, Kurile Islands, Japan.

Ribes emodense¹ var. *urceolatum*, comb. nov.

¹*Ribes emodense*, nom. nov.

Ribes rubrum Hooker f. & Thomson in Jour. Linn. Soc. II. 89 (1858).—Hooker f., Fl. Brit. Ind. II. 411 (1878).—Non Linnaeus.

Ribes himalayense Decaisne in Jacquemont, Voy. dans l'Inde, IV. 66 (1844).—Non Royle.

Ribes himalayense Decaisne, l. c. t. 77 (1844).—Janczewski in Bot. Jahrb. xxxvi. beibl. lxxxii. 51 (1905); in Mém. Soc. Phys. Hist. Nat. Genève, xxxv. 296 (Monog. Groseill.) (1907).—Non *R. himalayense* Royle.

Decaisne unfortunately adopted Royle's name for this plant and cites him as the author, though it is evident from Royle's account (Ill. Bot. Himal. 225) that he intended to give a name to the Himalayan Gooseberry of which there is only one species known later called by Decaisne *R. alpestre*. There may be doubt if Royle's name should be considered properly published and should supersede Decaisne's name for the Himalayan Gooseberry as it lacks a technical description, but it does not seem wise and is not in conformity with the Rules of Nomenclature to retain the name *R. himalayense*, or *R. himalayense* as it is spelled on the plate, for the Himalayan Currant referred to *R. rubrum* by Hooker and other botanists, as it is clearly an incorrect application of Royle's name which may yet be taken up for the species generally known as *R. alpestre* Dcne.

Ribes himalayense Decaisne in Jacquemont, Voy. dans l'Inde, iv. t. 77 (1844).—Janczewski in Bot. Jahrb. xxxvi. beibl. lxxxii. 51 (1905).—Non *R. himalayense* Royle.

Ribes himalayense α. *Decaisnei* Janczewski in Mém. Soc. Phys. Nat. Genève, xxxv. 296 (Monog. Groseill.) (1907).

Ribes himalayense γ. *urceolatum* Janczewski, l. c. (1907); in Bull. Acad. Sci. Cracovie Cl. Sci. Nat. 1910, 69.

SHENSI: *G. Giraldi* (ex Janczewski, l. c. [1905, 1907 and 1910]).

DISTRIBUTION (of the variety): Hupeh, Yunnan, Sikkim.

***Ribes emodense* var. *verruculosum*, var. nov.**

A typo recedit foliis minoribus subtus ad venas basin versus et in petiolo apicem versus verruculis elevatis et ascendentibus glanduliferis instructis, racemis brevioribus, floribus subsessilibus, fructibus rubris sapidis.—Frutex metralis, ramulis glabris, ramis vetustioribus cinereis: folia 5-loba, lobis elongato-triangularibus saepe duplo longioribus quam latis acuminatis dupliciter inciso-serratis, 3–5.5 cm. longa, supra glabra, subtus basi tantum in axillis venarum villosa, ad venas praecipue basin versus verruculis glanduliferis (glandulis minimis et saepe obsoletis) conspersis; petioli graciles, 1.5–3.5 cm. longi, basi sparse glanduloso-ciliati, apicem versus ut venae verruculis instructi, ceterum glabri: racemi 2.5–4 cm. longi, rhachide leviter pubescente; bracteae rotundatae vel ovatae, ciliatae, circiter 1 mm. longae; flores subsessiles vel brevissime pedicellati, sepalis ciliatis, petalis cuneiformibus glabris quam stamina paullulo brevioribus, stylo apice bifido stamina aequante: bacca globosa, vix 8 mm. diam., rubra, sapida.

CHILI: Hsiao Wu tai shan, *J. Hers*, no. 1532, July 14, 1921 (type); same locality, *F. N. Meyer*, no. 1363, August 29, 1913 (fruiting).

SHANSI: Wu chai hsien, Ta nan kow, alt. 2000 to 3000 m., *Tchuang Kieh*, *Hers* no. 2028, September 7, 1922; Fang shan hsien, Nan yang shan, alt. 2000 to 3000 m., *J. Hers*, no. 2706, September 22–30, 1923.

This variety seems nearest to var. *urceolatum* (Jancz.) Rehd. but differs chiefly in its lower stature, smaller leaves glabrous above and furnished on the veins beneath as on the petiole with numerous small wart-like excrescences, and in its red fruit which according to Mr. Hers is of excellent flavor and just as good as our cultivated currants. The peculiar wart-like excrescences or glands can be found occasionally though very sparingly on specimens of var. *urceolatum* and of typical *R. emodense* from the northwestern Himalaya. From the two other varieties, var. *urceolatum* which has black fruits and var. *glandulosum*, comb. nov. (*R. himalayense* var. *glandulosum* Janczewski) which has orange fruit, var. *verruculosum* is well distinguished by the color of its fruit, but the Himalayan plant is described as having at least in one form red fruits which, however, are said to be not palatable. When we have a more definite knowledge of the fruit of the Himalayan plant we may probably be able to distinguish this northern variety as a species.

Ribes Meyeri Maximowicz in Mém. Biol. ix. 232 (1873); in Bull. Acad.

Sci. St. Pétersb. xix. 260 (1874).—Hemsley in Jour. Linn. Soc. xxiii. 279 (1887).—Bretschneider, Hist. Eur. Bot. Discov. China, 1054 (1898).

CHILI: near Peking (ex Maximowicz, l. c., Hemsley, l. c., and Bretschneider, l. c.).

DISTRIBUTION: also Central Asia to Szechuan.

I have seen no specimens from northern China and as Janczewski in his monograph does not mention it from this region its occurrence there seems doubtful.

Ribes nigrum Linnaeus, Spec. 201 (1753).—Hance in Jour. Bot. xiii. 132 (1875).—Hemsley in Jour. Linn. Soc. xxiii. 279 (1887).

? *Ribes pauciflorum* "Bge. vel affinis" Janczewski in Bot. Jahrb. xxvi. beibl. lxxxii. 51 (1905).

CHILI: Po hua shan, *E. Bretschneider* (ex Hance, l. c., and Hemsley, l. c.).

SHENSI: Kan y shan in Lao y shan, *G. Giralaldi*, no. 3776 (ex Janczewski, l. c.).

DISTRIBUTION: Europe and Siberia east to Irkutsk and Tomsk.

I have seen no specimens of *R. nigrum* from northern China and it seems doubtful whether this species is found there; Janczewski in his monograph gives Siberia as the native country of *R. nigrum* var. *pauciflorum* (Turcz.) Jancz., while typical *R. nigrum* is restricted to Europe.

Ribes fasciculatum Sieb. & Zucc. var. **chinense** Maximowicz in Mém. Biol. ix. 238 (1873); in Bull. Acad. Sci. St. Pétersb. xix. 263 (1874).—Ito in Tokyo Bot. Mag. xiv. 105 (1900).—Janczewski in Mém. Soc. Phys. Hist. Nat. Genève, xxxv. 397 (Monog. Groseill.) (1907).—Loesener in Bot. Centralbl. Beih. xxxvii. abt. ii. 130 (1919).

Ribes fasciculatum Hemsley in Jour. Linn. Soc. xxiii. 279 (1889).—Faber in Denkschr. Entwickel. Kiautschou, 32 (1898).—Janczewski in Bot. Jahrb. xxxvi. beibl. lxxxii. 52 (1905).—Non Siebold & Zuccarini.

Ribes chifuense Hance in Jour. Bot. xiii. 36 (1875).—Franchet in Mém. Soc. Sci. Nat. Cherbourg, xxiv. 217 (1884).

SHANTUNG: Chifu (ex Hemsley, l. c., Franchet, l. c., and Ito, l. c.); Lau shan (ex Loesener, l. c.).

NORTHERN KIANGSU: Hai chow hills, alt. 200 m., *Kang Fu Lai*, *Hers* no. 2288, October 8, 1922; Liu lin shan, near Hai chow, *J. Hers*, no. 609, May 5, 1921.

HONAN: Tsi yuan hsien, Tien tan shan, *J. Hers*, no. 1702, September 17, 1921 (sterile).

SHENSI: Tschan lien li, *F. N. Meyer*, no. 1925, September 17, 1914 (Herb. U. S. Dept. Agric.); Ko hou shan, pr. Tsu lu, *G. Giralaldi* (ex Janczewski, l. c.).

DISTRIBUTION: also Korea and the typical form in Japan.

Ribes Maximowiczii Batalin in Act. Hort. Petrop. xi. 487 (1890).—Bretschneider, Hist. Eur. Bot. Discov. China, 1028 (1898).—Janczewski in Mém. Soc. Phys. Hist. Nat. Genève, xxxv. 473 (Monog. Groseill.) (1907).

KANSU: banks of river Lum bu, *G. N. Potanin* (ex Bata'in, l. c., Bretschneider, l. c., and Janczewski, l. c.).

DISTRIBUTION: also Szechuan.

Ribes acuminatum Wallich in Roxburgh, Fl. Ind. II. 514 (1824).—Janczewski in Bot. Jahrb. XXXVI. beibl. LXXXII. 52 (1905)

Ribes acuminatum var. *γ. minus* Janczewski in Mém. Soc. Phys. Hist. Nat. Genève, XXXV. 472 (Monog. Groseill.) (1907).

SHENSI: Hua tzo pin, *G. Giraldis* (ex Janczewski, l. c.).

DISTRIBUTION: also Hupeh, Szechuan, Yunnan; Himalayas.

Ribes glaciale Wallich in Roxburgh, Fl. Ind. II. 513 (1824).—Janczewski in Bot. Jahrb. XXXVI. beibl. LXXXII. 51 (1905); in Mém. Soc. Phys. Hist. Nat. Genève, XXXV. 467 (Monog. Groseill.) (1907).

? *Ribes pulchellum* var. *inerme* Janczewski in Bot. Jahrb. XXXVI. beibl. LXXXII. 52 (1905).

SHENSI: Qua in san, *G. Giraldis*, July 16, 1897.—See also Janczewski, l. c. (1905 and 1907).

DISTRIBUTION: also Hupeh, Szechuan, Yunnan; Himalayas.

Ribes coeleste Janczewski in Bull. Acad. Cracovie Cl. Sci. Nat. 1906, 290 (Spec. Gen. Ribes, III. 11); in Mém. Soc. Phys. Hist. Nat. Genève, XXXV. 465 (1907).

SHENSI: Tai pei shan, *W. Purdom*, no. 975, 1910.—See also Janczewski, l. c. (1906 and 1907).

DISTRIBUTION: also Szechuan.

Ribes tenue Janczewski in Bull. Acad. Sci. Cracovie Cl. Sci. Nat. 1906, 290 (Spec. Gen. Ribes, III. 11).

SHENSI: *G. Giraldis*, no. 7159 (ex Janczewski, l. c.).

DISTRIBUTION: Hupeh, Szechuan; Tibet, Sikkim.

Ribes tricuspe Nakai, Chosenshokubutsu I. 342, f. 426 (1913); in Tokyo Bot. Mag. XXX. 142 (1916).

HONAN: Yung ning, Chuan pao shan, *J. Hers*, no. 1123, October 17, 1919; Lushih, Lao kiun shan, alt. 2000 m., *J. Hers*, no. 1171, September 21, 1919; Tsi yen hsien, Tien tan shan, *J. Hers*, no. 1718, September 20, 1921.

DISTRIBUTION: also Korea, Japan.

The specimens cited above are all sterile and I am therefore not quite sure if their identification with *R. tricuspe* is correct, but they agree perfectly well with specimens from Korea of this species and do not match any other *Ribes* known from northern China.

Ribes pulchellum Turczaninow in Bull. Soc. Nat. Moscou, v. 191 (1832).—Maximowicz in Mém. Biol. IX. 241 (1873); in Bull. Acad. Sci. St. Pétersb. XIX. 266 (1874).—Franchet in Nouv. Arch. Mus. Paris, sér. 2, VI. 7 (Pl. David. I. 127) (1883).—Hemsley in Jour. Linn. Soc. XXIII. 280 (1887).—Bretschneider, Hist. Eur. Bot. Discov. China, 344 (1898).—Jan-

czewski in Mém. Soc. Phys. Hist. Nat. Genève, xxxv. 453, fig. 162 (Monog. Groseill.) (1907).

CHILI: Weichang, *W. Purdom*, no. 31, 1910; Cal-keen wong, *W. Purdom*, no. 70, 1910; Po hua shan, *J. Hers*, no. 1663, September 9, 1921; Hsiao Wu tai shan, Shui shih tao, alt. 1500 m., *J. Hers*, no. 2179, October 8, 1922; Hsiao Wu tai shan, southeastern valley, alt. 900–1500 m., *J. Hers*, no. 2193, October 9, 1922.—See also Turczaninow, l. c., Maximowicz, l. c., Franchet, l. c., Bretschneider, l. c., and Janczewski, l. c.

SHANSI: Shara khada mountains, *N. Przewalski* (ex Maximowicz, l. c.).

DISTRIBUTION: Szechuan; Mongolia, Transbaicalia.

Ribes Giralddii Janczewski in Bull. Acad. Sci. Cracovie Cl. Sci. Nat. 1906, 289 (Spec. Gen. Ribes III. 10); in Mém. Soc. Phys. Hist. Nat. Genève, xxxv. 455, fig. 163 (Monog. Groseill.) (1907).

? *Ribes orientale* Janczewski in Bot. Jahrb. xxxvi. beibl. lxxxii. 51 (1905).

SHANSI: Hia hsien, Huang lai kow, *J. Hers*, no. 1862, October 2, 1921.

SHENSI: Tai pei shan, *W. Purdom*, no. 974, 1910.—See also Janczewski, l. c. (1906, 1907 and 1905).

Ribes bureiense Fr. Schmidt in Mém. Acad. Sci. St. Pétersb. sér. 7. XII. no. II. 42 (1868).—Janczewski in Bot. Jahrb. xxxvi. beibl. lxxxii. 51 (1905); in Bull. Acad. Sci. Cracovie Cl. Sci. Nat. 1906, 284 (Spec. Gen. Ribes. III. 5); in Mém. Soc. Phys. Sci. Nat. Genève, xxxv. 371, fig. 99 (Monog. Groseill.) (1907).—Hers in Jour. N. China Branch R. As. Soc. LIII. 115 (1922); Liste Ess. Lign. Honan, 26 (1922).

Ribes macrocalyx Hance in Jour. Bot. XIII. 35, 132 (1875).—Franchet in Nouv. Arch. Mus. Paris, sér. 2, vi. 6 (Pl. David. I. 127) (1883).—Bretschneider, Hist. Eur. Bot. Discov. China, 862, 1054 (1898).

Ribes grossularioides Hemsley in Jour. Linn. Soc. xxiii. 279 (1887).—Non Maximowicz.

? *Ribes alpestre* Hers, l. c. (1922).—Non Decaisne.

CHILI: Hsiao Wu tai shan, *F. N. Meyer*, no. 1333, August 23, 1913; same locality, *J. Hers*, no. 1555, July 14, 1921; Hsiao Wu tai shan, Tieh ling sze, alt. 1300 m., *J. Hers*, no. 2148, October 7, 1922.—See also Bretschneider, l. c., and Janczewski, l. c. (1906 and 1907).

HONAN: Lushih, Hiung eul shan, alt. 1400 m., *J. Hers*, no. 913, October 10, 1919; Yung ning, Chuan pao shan, alt. 1500 m., *J. Hers*, no. 1111, October 17, 1919 (both sterile).

SHANSI: Wu tai shan, alt. 1600 m., *J. Hers*, no. 2633, July 29, 1923; Wu chai hsien, Ta nan kow, alt. 2000–3000 m., *Tchuang Kieh*, Hers no. 2017, September 7, 1922; Nan yang shan, alt. 1500–2000 m., *J. Hers*, no. 2707, September 22–30, 1923.

SHENSI: "Gie ju," *G. Giralddi*, no. 3769 (ex Janczewski, l. c. [1905, 1906 and 1907]).

DISTRIBUTION: Manchuria, Korea.

In Hers' nos. 2017 and 2707 from Shansi the fruits are less spiny than in the type, some fruits bearing only 3 or 4 spines.

Ribes stenocarpum Maximowicz in Bull. Acad. Sci. St. Pétersb. xxvii. 475 (1881); in Mém. Biol. xi. 228 (1881).—Hemsley in Jour. Linn. Soc. xxxiii. 280 (1887).—Bretschneider, Hist. Eur. Bot. Discov. China, 976 (1898).—Janczewski in Bot. Jahrb. xxxvi. beibl. lxxxii. 51 (1905); in Bull. Acad. Sci. Cracovie Cl. Sci. Nat. 1906, 284 (Spec. Gen. *Ribes* iii. 5); in Mém. Soc. Phys. Sci. Nat. Genève, xxxv. 374, fig. 101 (Monog. Groseill.) (1907).

SHENSI: Tue lien pin, *G. Giraldi*, nos. 522, 523 (ex Janczewski, l. c. [1905, 1906 and 1907]).

KANSU: Tangut, *N. Przewalski* (ex Maximowicz, l. c., Hemsley, l. c., and Bretschneider, l. c.).

Ribes alpestre β . *giganteum* Janczewski in Bull. Acad. Sci. Cracovie Cl. Sci. Nat. 1910, 72.—Meyer in U. S. Dept. Agric. Bur. Pl. Indust. Invent. Seeds Pl. Imp. xlii. 38, 52, nos. 39916, 40022, pl. 6 (1918).

KANSU: near Tao chow, *F. N. Meyer*, no. 2011, November 25, 1914.—See also Meyer, l. c.

PITTOSPORACEAE

Pittosporum glabratum Lindley in Jour. Hort. Soc. London, i. 230 (1846).—Diels in Bot. Jahrb. xxxvi. beibl. lxxxii. 52 (1905).—Rehder & Wilson in Sargent, Pl. Wilson. iii. 326 (1916).

SHENSI: "Thui kio tsuen," *G. Giraldi*, September 25, 1897.—See also Diels, l. c., and Rehder & Wilson, l. c.

DISTRIBUTION: also Kiangsi, Chekiang, Fokien, Kwangtung, Hupeh, Kweichow, Szechuan, Yunnan.

HAMAMELIDACEAE

Liquidambar formosana Hance in Ann. Sci. Nat. sér. 5, v. 215 (1866).—Bailey, Gent. Herb. i. 27 (1920).

HONAN: Chikung shan, *L. H. Bailey*, June 30, 1917.—See also Bailey, l. c.

NORTHERN KIANGSU: Liu lin shan, near Hai chow, *J. Hers*, no. 608, May 5, 1921; Hai chow hills, *Kang Fu Lai*, Hers nos. 2263 and 2264, October 8, 1922.

DISTRIBUTION: also Anwhei (Herb. Univ. Nanking, no. 1597), Chekiang, Kiangsi, Kwangtung, Hupeh, Szechuan; Formosa.

Fortunearia sinensis Rehder & Wilson in Sargent, Pl. Wilson. i. 428 (1913).—Bailey, Gent. Herb. i. 27 (1920).

HONAN: Chi kung shan, *L. H. Bailey*, June 30, 1917.—See also Bailey, l. c.

DISTRIBUTION: also Anwhei (Herb. Univ. Nanking, no. 362), Hupeh.

EUCOMMIACEAE

Eucommia ulmoides Oliver in Hooker's Icon. xx. t. 1950 (1890).—Wilson in Sargent, Pl. Wilson. i. 433 (1913).—Bailey, Gent. Herb. i. 28

(1920).—Hers in Jour. N. China Branch R. As. Soc. LIII. 110 (1922); Liste Ess. Lign. Honan, 12 (1922).

HONAN: Sung hsien, San kuan miao, alt. about 1000 m., *J. Hers*, no. 515, May 24, 1919.—See also Bailey, l. c., and Hers, l. c.

SHENSI: Ling yen tan, alt. 700 m., *J. Hers*, no. 2448, October 11, 1922.

KANSU: Hui hsien, *F. N. Meyer*, no. 1743, September 29, 1914.

DISTRIBUTION: also Hupeh, Chekiang (*F. N. Meyer*, no. 1535).

ROSACEAE

Physocarpus amurensis Maximowicz in Act. Hort. Petrop. vi. 221 (1879).—Limpricht, Bot. Reis. Hochgeb. Chin. Ost-Tib. 403 (1922).

CHILI: Jehol, Wu ling shan (ex Limpricht, l. c.).

DISTRIBUTION: also Manchuria, Korea.

Neillia sinensis Oliver in Hooker's Icon. xvi. t. 1540 (1886).—Pritzel in Bot. Jahrb. xxix. 382 (1900).—Rehder in Sargent, Pl. Wilson. i. 436 (1913).

SHENSI: In kia po, *G. Giralddi*, June 4, 1897; Tai pei shan, *G. Giralddi*, July 20, 1897; *W. Purdom*, nos. 1, 467, 1910; Lung chow, Kuan shan, alt. 2000 m., *J. Hers*, no. 2343, July 3, 1922; Lung chow, Li kia po, alt. 1800 m., *J. Hers*, no. 2370, July 4, 1922.—See also Pritzel, l. c., and Rehder, l. c.

KANSU: Valley of the river Tshiluco, *G. N. Potanin* (ex Rehder, l. c.).

DISTRIBUTION: also Hupeh, Szechuan, Hunan.

Stephanandra chinensis Hance in Jour. Bot. xx. 210 (1882).—Hemsley in Jour. Linn. Soc. xxiii. 228 (1887).—Bailey, Gent. Herb. i. 31 (1920).

SHANTUNG: Maingay (ex Hemsley, l. c.).

HONAN: Chi kung shan, *L. H. Bailey*, June 13, 1917.—See also Bailey, l. c.

DISTRIBUTION: also Kiangsi, Hupeh.

Stephanandra incisa (Thunb.) Zabel in Garten-Zeit. iv. 510 (1885).—Loesener in Bot. Centralbl. Beih. xxxvii. abt. ii. 131 (1919).

Stephanandra flexuosa Siebold & Zuccarini in Abh. Akad. Muench. iii. 740, t. 4, fig. 2 (1843).—Gilg in Bot. Jahrb. xxxiv. beibl. lxxv. 39 (1904).

SHANTUNG: Lau shan and Cape Ya tau (ex Loesener, l. c., and Gilg, l. c.).

DISTRIBUTION: also Korea, Japan.

Spiraea prunifolia Siebold & Zuccarini, Fl. Jap. i. 131 (1835).—Pritzel in Bot. Jahrb. xxix. 382 (1900).

SHENSI: ? Lean san, *G. Giralddi*, no. 1136 (ex Pritzel, l. c.).

DISTRIBUTION: also Kiangsu, Chekiang, Kiangsi, Fokien; Korea; Formosa.

The citation is marked with a query by Pritzel and it seems indeed doubtful that this species should occur in Shensi, as it is so far known only from Eastern China and from Korea and Formosa.

Spiraea hypericifolia Linnaeus, Spec. i. 489 (1753).—Maximowicz in

Act. Hort. Petrop. vi. 177 (1879).—Rehder in Jour. Arnold Arb. i. 258 (1920).

Spiraea hypericifolia var. *hupehensis* Rehder in Sargent, Pl. Wilson. i. 438 (1913), quoad specimen e Shensi.

CHILI: Si wan tze near Kalgan, *Père Artselaer* (ex Maximowicz, l. c.).

SHENSI: Yen-an fu, *W. Purdom*, no. 346, May, 1910.—See also Rehder, l. c. (1913 and 1920).

DISTRIBUTION: also Mongolia and through Siberia to Turkestan, Caucasus and Russia.

Spiraea hypericifolia var. *thalictroides* Maximowicz in Act. Hort. Petrop. vi. 179 (1879).

CHILI: "in Mongolia versus fines Chinenses," *Kirilow* (ex Maximowicz, l. c.).

DISTRIBUTION: also Mongolia, Dahuria and Transbaicalia.

Spiraea mongolica Maximowicz in Bull. Acad. Sci. St. Pétersb. xxviii. 467 (1881); in Mém. Biol. xi. 216 (1881).—Hemsley in Jour. Linn. Soc. xxiii. 226 (1887).—Bretschneider, Hist. Eur. Bot. Discov. China, 975 (1898).

Spiraea crenifolia γ. *mongolica* Maximowicz in Act. Hort. Petrop. vi. 181 (1879).

KANSU: *N. Przewalski* (ex Maximowicz, l. c., Hemsley, l. c., and Bretschneider, l. c.).

Spiraea gemmata Zabel, Strauch. Spir. 23 (1893).—Rehder in Sargent, Pl. Wilson. i. 441 (1913).

SHENSI: Tai pei shan, *W. Purdom*, no. 2, 1910.

KANSU: Min chow, alt. 2800 m., *W. Purdom*, no. 1017, 1910.

DISTRIBUTION: also Szechuan.

Spiraea alpina Pallas, Fl. Ross. i. 35, t. 20 (1784).—Kanitz in Szechenyi, Keletasz. Utján. Tudom. Ered. ii. 808 (Pl. Enum. 20) (1891); in Szechenyi, Wiss. Ergeb. Reise Ostas. ii. 696 (1898).—Pritzel in Bot. Jahrb. xxix. 382 (1900).—Rehder in Sargent, Pl. Wilson. i. 440 (1913).

SHENSI: Tai pei shan, *W. Purdom*, no. 5, 1910.—See also Pritzel, l. c., and Rehder, l. c.

KANSU: Min chow districts, alt. 3000 m., *W. Purdom*, no. 1015, 1911.—See also Kanitz, l. c., and Rehder, l. c.

DISTRIBUTION: also Szechuan; Mongolia, Dahuria, Songaria, Altai Mts.

Spiraea prostrata Maximowicz in Act. Hort. Petrop. vi. 184 (1879).—Hemsley in Jour. Linn. Soc. xxiii. 226 (1887).—Bretschneider, Hist. Eur. Bot. Discov. China, 996 (1898).—Pritzel in Bot. Jahrb. xxix. 382 (1900).

SHENSI: along the river Han, *P. J. Piasezki* (ex Maximowicz, l. c., Hemsley, l. c., Bretschneider, l. c., and Pritzel, l. c.).

KANSU: "Kansu australis," *P. J. Piasezki* (ex Maximowicz, l. c., Hemsley, l. c., Bretschneider, l. c., and Pritzel, l. c.).

DISTRIBUTION: also Hupeh.

Spiraea media Schmidt var. *sericea* Maximowicz in Act. Hort. Petrop. vi. 189 (1879).—Hers in Jour. N. China Branch R. As. Soc. LIII. 116 (1922); Liste Ess. Lign. Honan, 30 (1922).

CHILI: Si wan tze near Kalgan, *Père Artselaer* (ex Maximowicz, l. c.).

SHANSI: Shara khada mountain, *N. Przewalski* (ex Maximowicz, l. c.).

HONAN: Teng Feng hsien, Yu tai shan, alt. 1000 m., *J. Hers*, no. 217^{bis}, April 23, 1919 and no. 324, April 20, 1920; Yung ning, Tsi li ping, alt. 1000 m., *J. Hers*, no. 1327, September 30, 1919; Lushih, Hiung eul shan, alt. 1400 m., *J. Hers*, no. 884, October 10, 1919.—See also Hers, l. c.

DISTRIBUTION: also Manchuria, Korea, Saghalin, Mongolia, Dahuria.

Spiraea dasyantha Bunge in Mém. Div. Sav. Acad. Sci. St. Pétersb. III. 97 (Enum. Pl. Chin. Bor. 23) (1833).—Walpers, Rep. II. 49 (1843).—Turczaninov in Bull. Soc. Nat. Moscou, x. no. VII. 151 (1837).—Maximowicz in Mém. Div. Sav. Acad. Sci. St. Pétersb. IX. 471 (Ind. Fl. Pekin.) (1859); in Act. Hort. Petrop. VI. 194 (1879).—Franchet in Nouv. Arch. Mus. Paris, sér. 2, v. 259 (Pl. David. I. 107) (1883).—Hemsley in Jour. Linn. Soc. XXIII. 224 (1887).—Bretschneider, Hist. Eur. Bot. Discov. China, 332, 1053 (1898).

CHILI: "China bor." ex herb. Bunge; near Peking, *F. N. Meyer*, no. 390, May, 1907; western hills near Peking, *J. Hers*, no. 2516, June 1, 1923; Po hua shan, *J. Hers*, no. 1393, May 1, 1921; Nankow, *F. N. Meyer*, no. 1025, July 27, 1913 (Herb. U. S. Dept. Agric.); Nankow pass, *J. Hers*, no. 1605, August 15, 1921; hills near Great Wall, on Peking-Kalgan road, *J. G. Jack*, October 5, 1905; Miao feng shan, alt. 1000 m., *J. Hers*, nos. 2533, 2543, June 17 and 18, 1923; Tsing shiu tsien, *J. Hers*, no. 1638, September 6, 1921; Tung ling, *B. E. Read*, no. 77 (Herb. N. H. Cowdry, no. 2009), about 1920.—See also Bunge, l. c., Walpers, l. c., Turczaninov, l. c., Maximowicz, l. c., Franchet, l. c., and Hemsley, l. c.

Spiraea pubescens Turczaninov in Bull. Soc. Nat. Moscou, v. 190 (1832).—Maximowicz in Mém. Div. Sav. Acad. Sci. St. Pétersb. IX. 471 (Ind. Fl. Pekin.) (1859); in Act. Hort. Petrop. VI. 193 (Adnot. Spir.) (1879).—Hemsley in Jour. Linn. Soc. XXIII. 227 (1887).—Bretschneider, Hist. Eur. Bot. Discov. China, 344, 1053 (1898).—Pritzel in Bot. Jahrb. XXIX. 382 (1900).—Hers in Jour. N. China Branch R. As. Soc. LIII. 116 (1922); Liste Ess. Lign. Honan, 30 (1922).

CHILI: Weichang, *W. Purdom*, no. 17, May 24, 1909, no. 1140, 1909; Tung ling mountains, *N. H. Cowdry*, no. 1336, May 18, 1921; near Kalgan, mountain ravines, *N. H. Cowdry*, no. 1362, June 2, 1921; Po hua shan, *J. Hers*, no. 1439, 1452, July 1, 1921; same locality, alt. 1000–2000 m., *J. Hers*, no. 2236, October 12, 1922; Hsiao Wu tai shan, alt. 2000 m., *F. N. Meyer*, no. 1141, August 8, 1913, *J. Hers*, no. 1505, July 14, 1921; Hsiao Wu tai shan, Thieh ling sze, alt. 1300 m., *J. Hers*, nos. 2126, 2141, October 7, 1922; Huai lai hsien, Yang kia ping, alt. 900 m., *J. Hers*, no. 2084, October 4, 1922; without precise locality, *Père Chanet*, no. 73, 1919.—

See also Turczaninow, l. c., Maximowicz, l. c., Hemsley, l. c., and Bretschneider, l. c.

HONAN: Teng feng hsien, Yu tai shan, alt. 1000 m., *J. Hers*, no. 217, April 23, 1919, no. 315, April 20, 1920; Hwei hsien, Ta fu tze, *J. Hers*, nos. 749, 779, June 16, 1919; Yung ning, Chuan pao shan, alt. 1500 m., *J. Hers*, no. 117, October 17, 1919; Tsi yuan hsien, Tien tan shan, *J. Hers*, no. 1764, September 21, 1921; Chung chow, *J. Hers*, no. 2500, May 1, 1922; Chung chow, introduced from the hills, *J. Hers*, no. 2494, April 25, 1923.—See also *Hers*, l. c.

SHANSI: Wu chai hsien, Ta nan kow, alt. 2000–3000 m., *Tchuan Kieh*, *Hers* no. 2003, September 7, 1922; Nan yang shan, alt. up to 2500 m., *J. Hers*, no. 2718, September 22–30, 1923; Shara khada mountains, *N. Przewalski* (ex Maximowicz, l. c. [1879]).

SHENSI: south of Yen an fu, *W. Purdom*, no. 358, May, 1910; King lung shan, alt. 900 m., *J. Hers*, no. 2438, October 9, 1922.—See also Pritzel, l. c.

DISTRIBUTION: also Korea.

Purdom's no. 17 from Weichang is very similar to *S. media* var. *sericea* in its leaves which on the flowering branchlets are elliptic oblong and only dentate at the apex but it shows the umbellate flowers, the upright calyx-teeth and rather shorter stamens of *S. pubescens*. *Hers*' nos. 749 and 779 from Hwei hsien, Honan, resemble in their firmer reticulate leaves *S. hirsuta* Bl., but the inflorescence is glabrous and the leaves are rather small.

Spiraea cantoniensis Loureiro, Fl. Cochinch. 322 (1790).—*Hers* in Jour. N. China Branch R. As. Soc. LIII. 116 (1922); Liste Ess. Lign. Honan, 29 (1922).

NORTHERN Kiangsu: Sukow, on the seashore, Liu lin shan, near Hai chow, *J. Hers*, no. 621, May 5, 1921.

HONAN: Yu tai shan, *J. Hers*, nos. 314, 327, April 20 and May 10, 1920; Sung shan, *J. Hers*, no. 337, April 24, 1921; Cheng chow, *J. Hers*, nos. 2496, 2501, May 1, 1923.

DISTRIBUTION: also Chekiang, Fokien, Kwangtung; Japan.

Spiraea hirsuta Schneider in Bull. Herb. Boissier, sér. 2, v. 342 (1905).—Rehder in Sargent, Pl. Wilson. I. 444 (1913).

SHENSI: Tai pei shan, *W. Purdom*, no. 4, 1910.—See also Rehder, l. c.

DISTRIBUTION: also Hupeh.

Purdom's specimen resembles *S. pubescens* Turcz. in the shape and pubescence of its leaves, but the inflorescence is pilose.

Spiraea Blumei G. Don, Gen. Syst. II. 518 (1832).—Hemsley in Jour. Linn. Soc. XXIII. 223 (1887).—Pritzel in Bot. Jahrb. XXIX. 383 (1900).—Rehder in Sargent, Pl. Wilson. I. 446 (1913).

HONAN: Sung hsien, San kuan miao, *J. Hers*, no. 122, October 2, 1919; Sung hsien, Shih tze miao, alt. 1200 m., *J. Hers*, no. 1253, September 25, 1919; Tsi yuan hsien, alt. 500 m., *J. Hers*, no. 2654, August 22, 1923;

Tsi yuan hsien, Tien tan shan, *J. Hers*, no. 1709, September 20, 1921; without precise locality, *J. Hers*, no. 16, 1918.

SHENSI: "Mte. Kin qua san," *G. Giralddi*, July 10, 1897; Tai pei shan, *W. Purdom*, no. 6, 1910 and no. 423, July 2, 1910.—See also Pritzel, l. c., and Rehder, l. c.

DISTRIBUTION: also Kiangsu, Kiangsi, Hupeh, eastern Szechuan; Japan.

This is apparently a very variable species and some specimens closely approach *S. triloba* L., particularly Purdom's nos. 6 and 423 from Shensi which resemble that species in their much smaller, thinner and glabrous leaves but the leaves are cuneate-obovate and scarcely 3-lobed.

Spiraea trilobata Linnaeus, Mant. Alt. 244 (1771).—Bunge in Mém. Div. Sav. Acad. Sci. St. Pétersb. II. 97 (Enum. Pl. Chin. Bor. 23) (1833).—Turczaninov in Bull. Soc. Nat. Moscou, x. no. VII. 151 (1837).—Maximowicz in Mém. Div. Sav. Acad. Sci. St. Pétersb. IX. 471 (Ind. Fl. Pekin.) (1859); in Act. Hort. Petrop. VI. 197 (Adnot. Spir.) (1879).—Franchet in Nouv. Arch. Mus. Paris, sér. 2, v. 259 (Pl. David. I. 107) (1883); in Mém. Soc. Sci. Nat. Cherbourg, XXIV. 214 (Fl. Tché-foû) (1884).—Hemsley in Jour. Linn. Soc. XXIII. 228 (1887).—Bretschneider, Hist. Eur. Bot. Discov. China, 53 (1898).—Pritzel in Bot. Jahrb. XXIX. 283 (1900).—Loesener in Bot. Centralbl. Beih. XXXVII. abt. II. 131 (1919).—Bailey, Gent. Herb. I. 31 (1920).—Limpricht, Bot. Reis. Hochgeb. Chin. Ost.-Tib. 404 (1922).—Hers in Jour. N. China Branch R. As. Soc. LIII. 116 (1922); Liste Ess. Lign. Honan, 30 (1922).—Cowdry in Jour. N. China Branch R. As. Soc. LIII. 164 (Pl. Peitaiho) (1922).

Spiraea pubescens Gilg in Bot. Jahrb. XXXIV. beibl. LXXV. 39 (1904).—Non Turczaninov.

CHILI: Weichang, *W. Purdom*, no. 1141, 1910; Peking, western hills, *J. Hers*, nos. 1397, 1581, 1613, May 15, and August 7 and 21, 1921; San tun ying, on dry rocky slopes, *F. N. Meyer*, no. 962, May 29, 1913; Tsing shui tsien, *J. Hers*, no. 1629, September 6, 1921; Miao feng shan, alt. 1000 m., *J. Hers*, nos. 2534, 2544, June 12 and 18, 1923; "Chin. bor.," ex Herb. Bunge (Gray Herb.).—See also Bunge, l. c., Turczaninov, l. c., Maximowicz, l. c., Franchet, l. c., Hemsley, l. c., Bretschneider, l. c., Limpricht, l. c., and Cowdry, l. c.

SHANTUNG: Lau shan, alt. 300 m., *R. Zimmermann*, no. 393, 1901; Po shan, *F. N. Meyer*, no. 264, September, 1907.—See also Loesener, l. c., and Gilg, l. c.

HONAN: Lushih, Tang ho, alt. 1000 m., *J. Hers*, no. 951, October 11, 1919; Kio shan, *L. H. Bailey*, June 23, 1917.—See also Bailey, l. c., and Hers, l. c.

SHANSI: Sheng shih ling, alt. 1500 to 2500 m., *Tchuang Kieh*, *Hers* no. 2057, September 9, 1922; Wu tai shan, alt. 1300 m., *J. Hers*, no. 2611, July 29, 1923.

SHENSI: several localities, *G. Giralddi* (ex Pritzel, l. c.).

DISTRIBUTION: also Dahuria, Siberia, Turkestan.

Spiraea Wilsonii Duthie in Hort. Veitch, 379 (1906).—Bean in Bot. Mag. CXXXVII. t. 8399 (1911).

Spiraea canescens Pritzell in Bot. Jahrb. xxix. 383 (1900), quoad plantam e Shensi.—Non D. Don.

SHENSI: In kia po, and Lao y san, *G. Giraldi*, June 4, 1897; Po uo li, *G. Giraldi*, July 25-30, 1897; Lao y san (Zulu), *G. Giraldi*, September 6, 1897; Tai pei shan, alt. 2300 m., *W. Purdom*, nos. 425, 426, July 1, 1910, nos. 8, 10, 1910.—See also Pritzell, l. c.

DISTRIBUTION: also Hupeh.

Spiraea longigemmis Maximowicz in Act. Hort. Petrop. vi. 205 (Adnot. Spir.) (1879).—Hemsley in Jour. Linn. Soc. xxiii. 226 (1887).—Bretschneider, Hist. Eur. Bot. Discov. China, 975 (1898).

KANSU: Min chow, *W. Purdom*, no. 1016, 1910.—See also Maximowicz, l. c., Hemsley, l. c., and Bretschneider, l. c.

Spiraea Fritschiana Schneider in Bull. Herb. Boissier, sér. 2, v. 347 (1905); Ill. Handb. Laubholz. i. 477 (1905).—Rehder in Sargent, Pl. Wilson. i. 453 (1913).

Spiraea betulifolia Debeaux in Act. Soc. Linn. Bordeaux, xxxi. 148 (Fl. Tehéfoû, 53) (1877).—Franchet in Nouv. Arch. Mus. Paris, sér. 2, v. 260 (Pl. David. i. 108) (1883); in Mém. Soc. Sci. Nat. Cherbourg, xxiv. 214 (1884).—Hemsley in Jour. Linn. Soc. xxiii. 223 (1887).—Faber, Denkschr. Entwickel. Kiautschou, 32 (1898).—Non Pallas.

Spiraea japonica Hemsley in Jour. Bot. Soc. xxiii. 225 (1887), quoad plantam e Shantung.—Palibin in Act. Hort. Petrop. xiv. 116 (1895).—Pritzell in Bot. Jahrb. xxix. 383 (1900).—Limpricht, Bot. Ergeb. Reis. Chin. Ost-Tib. 404 (1922).—Non Thunberg.

Spiraea japonica var. *typica* Gilg in Bot. Jahrb. xxxiv. beibl. lxxv. 39 (1904).—Loesener in Bot. Centralbl. Beih. xxxvii. abt. ii. 131 (1919).—Non *S. japonica* Thunberg.

Spiraea angulata Schneider in Bull. Herb. Boissier, sér. 2, v. 347 (1905); Ill. Handb. Laubholz. i. 477 (1905).

Spiraea Fritschiana var. *angulata* Rehder in Sargent, Pl. Wilson. i. 453 (1913).

CHILI: near San tun ying, *F. N. Meyer*, no. 992 (13), June 2, 1913; Jehol, *A. David* (ex Franchet, l. c. [1883]), Ku pei ku, *H. Wawra* (ex Schneider, l. c.).—See also Hemsley, l. c., and Palibin, l. c.

SHANTUNG: Lau shan, *R. Zimmermann*, nos. 344, 382, 1901; Chifu, *N. H. Cowdry*, no. 584, July, 1920; Tai shan, *J. Hers*, no. 1927, June 18, 1922.—See also Schneider, l. c., Rehder, l. c., Debeaux, l. c., Franchet, l. c. (1884), Hemsley, l. c., Faber, l. c., Gilg, l. c., and Loesener, l. c.

HONAN: Yung ning, Tsi li ping, alt. 1000 m., *J. Hers*, no. 1379, September 30, 1919 (sterile).

SHENSI: Kan y san, west of Lao y san, *G. Giraldi*, June 11-12, 1897; Lao y san, *G. Giraldi*, June 4, 1897; Kin ten san, *G. Giraldi*, July 14, 1897; Ta see tsuen, *G. Giraldi*, September 18, 1897; Tai pei shan, *W. Purdom*, nos. 1, 3, 1910.—See also Pritzell, l. c., and Limpricht, l. c.

DISTRIBUTION: also Hupeh; Manchuria, Korea.

Neither *S. betulifolia* Pall. nor *S. japonica* Thunb. seem to occur in northern China; all the specimens I have seen from the northern provinces

where these two species have been reported from turned out to be *S. Fritschiana*. As the difference between the two recognized forms of this species, the type with the leaves sparingly pubescent beneath and the var. *angulata* with the leaves quite glabrous, is very slight, I have not kept these forms separate here. The glabrous form seems to be the more common; to the pubescent type belong the following specimens: Zimmermann's no. 382 and Cowdry's no. 584 from Shantung, Hers' no. 1379 from Honan and Giralaldi's specimens from Kan y san and Kin ten san, while the others belong to var. *angulata* Rehd.

Sibiraea laevigata Maxim. var. *angustata* Rehder in Sargent, Pl. Wilson. I. 455 (1913).

KANSU: Min chow, Tow River and Choni districts, alt. 3300 m., *W. Purdom*, no. 791, 1910.—See also Rehder, l. c.

DISTRIBUTION (of variety): also W. Szechuan, Yunnan (*C. Schneider*, no. 2205); (distribution of the type): southern Siberia, Altai and Tien shan, and one variety in southeastern Europe.

Sorbaria Kirilowii Maximowicz in Act. Hort. Petrop. vi. 225 (Adnot. Spir.) (1879).—Kanitz in Szechenyi, Keletasz. Utján. Tudom. Ered. II. 808 (Pl. Enum. 20) (1891); in Szechenyi, Wiss. Ergeb. Reise Ostas. II. 696 (1898).—Schneider, Ill. Handb. Laubholz. I. 486, fig. 297 p-q, 299 d (1905).

Spiraea sorbifolia Bunge in Mém. Div. Sav. Acad. Sci. St. Pétersb. II. 97 (Enum. Pl. Chin. Bor. 23) (1833).—Turczaninov in Bull. Soc. Nat. Moscou, x. no. VII. 151 (1837).—Hemsley in Jour. Linn. Soc. XXIII. 227 (1887).—Bretschneider, Hist. Eur. Bot. Discov. China, 332 (1898).—Non Linnaeus.

Spiraea Kirilowii Regel & Tiling in Nouv. Mém. Soc. Nat. Moscou, XI. 81 (Fl. Ajan.) (1858).—Franchet in Nouv. Arch. Mus. Paris, sér. 2, v. 260 (Pl. David. I. 108) (1883).—Bretschneider, Hist. Eur. Bot. Discov. China, 348 (1898).

Sorbaria sorbifolia var. *Kirilowi* Ito in Tokyo Bot. Mag. XIV. 116 (1900).

Sorbaria sorbifolia Limpricht, Bot. Reis. Hochgeb. Chin. Ost-Tib. 404 (1922), quoad plantam e Chili.—Hers in Jour. N. China Branch R. As. Soc. LIII. 116 (1922); Liste Ess. Lign. Honan, 29 (1922).—Non A. Brown.

CHILI: Peking, Yuen ming huen, *H. Wawra*, no. 811; Peking, western hills, *J. Hers*, no. 1619, September 5, 1921; Hsiao Wu tai shan, *J. Hers*, nos. 1470, 1526, 1552, July 14, 1921.—See also Maximowicz, l. c., Schneider, l. c., Bunge, l. c., Turczaninov, l. c., Hemsley, l. c., Limpricht, l. c., Regel & Tiling, l. c., and Franchet, l. c.

SHANTUNG: cultivated (ex Ito, l. c.).

HONAN: Lushih, Hiung eul shan, alt. 1300 m., *J. Hers*, no. 857, October 9, 1919.—See also Hers, l. c.

SHANSI: Tun lan shui valley, alt. 1000 m., *J. Hers*, no. 2697, September 19, 1923.

SHENSI: (ex Limpricht, l. c.).

KANSU: Ala shan, cultivated (ex Maximowicz, l. c.); "in ditone Tonkerr" (ex Kanitz, l. c.).

DISTRIBUTION: Mongolia.

Sorbaria arborea Schneid. var. **glabrata** Rehder in Sargent, Pl. Wilson. I. 48 (1913).

Sorbaria sorbifolia Pritzel in Bot. Jahrb. xxix. 384 (1900).—Non Linnaeus.
Sorbaria arborea Hers in Jour. N. China Branch R. As. Soc. LIII. 116 (1922);
 Liste Ess. Lign. Honan, 29 (1922).—Non forma typica Schneideri.

HONAN: Yung ning, Chuan pao shan, alt. 1500 m., *J. Hers*, no. 118, October 17, 1919; Sung hsien, San kuan miao, alt. 1000 m., *J. Hers*, no. 1323, September 27, 1919.—See also Hers, l. c.

SHENSI: Kan y san, June 11, 1897, Kan y quo (Huo kia zaez), July 8, 1897, Po uo li, July 29, 1897, Lao y san (Zu lu) September 6, 1897, Kin san, 1897, *G. Giraldis*; Tai pei shan, *W. Purdom*, no. 1039, 1910.—See also Pritzel, l. c.

KANSU: Min chow, *W. Purdom*, no. 1018, 1910.

DISTRIBUTION (of the variety): Hupeh, Szechuan, Yunnan; the typical form is common in Hupeh and Szechuan.

Purdom's no. 1018 from Kansu differs in its leaves which have only 4 to 5 pairs of smaller less long-acuminate leaflets with inconspicuously serrulate teeth and with fewer more distant veins very slightly bearded in the axils. In Kansu apparently *S. arborea* as well as *S. Kirilowii* occur, the former south of the Tsing ling shan range, the latter north of it, and I assume that the specimen collected by the Szechenyi Expedition which traversed northern Kansu belongs to *S. Kirilowii* as determined by Kanitz. These two species are not always easily distinguished without fruit; the inflorescence of *S. Kirilowii* though upright as in *S. sorbifolia* is broader and looser and approaches in this respect that of *S. arborea*, and the length of the stamens, about as long as the petals in *S. Kirilowii* and usually much longer in *S. arborea*, seems variable in the latter species. *Sorbaria sorbifolia* L. has not been found in northern China; it is a more northern species ranging from western Siberia to Kamtschatka and Saghalin.

Exochorda racemosa Rehder in Sargent, Pl. Wilson. I. 456 (1913).—Bailey, Gent. Herb. I. 28 (1920).

HONAN: Chi kung shan (ex Bailey, l. c.).

DISTRIBUTION: also Kiangsu, Chekiang.

Exochorda Giraldis Hesse in Mitt. Deutsch. Dendr. Ges. xvii. 191, 219 (1908); xviii. 295, fig. (1909); in Fedde, Rep. Spec. Nov. viii. 347 (1910).

Exochorda grandiflora Pritzel in Bot. Jahrb. xxix. 384 (1900); xxxvi. beibl. LXXXII. 52 (1905).—Non Lindley.

Exochorda racemosa var. *Giraldis* Rehder in Sargent, Pl. Wilson. I. 457 (1913).

? *Exochorda racemosa* var. *Wilsonii* Farrer in Jour. Roy. Hort. Soc. XLII. 74 (1916).—Vix Rehder.

SHENSI: Kin qua san, *G. Giraldis*, July 10, 1897; Lao y san, *G. Giraldis*, 1897; Tai pei shan, *W. Purdom*, no. 1, 1910; Moutan shan, northwest of Han chang hsien, *W. Purdom*, no. 361, 1910; ? Hu kia scien, *Hugh Scallan*, 1897.—See also Rehder, l. c.

? KANSU: near Siku (ex Farrer, l. c.).

Cotoneaster horizontalis Decaisne in Fl. des Serres, xxii. 168 (1877).—Rehder & Wilson in Sargent, Pl. Wilson. i. 154 (1912).

KANSU: near Liang tang, on rocky grassy slopes, *F. N. Meyer*, no. 1675, September 29, 1914 (Herb. U. S. Dept. Agric.).

DISTRIBUTION: also Szechuan and Hupeh.

Cotoneaster horizontalis Dcne. var. *perpusilla* Schneider, Ill. Handb. Laubholz. i. 745, fig. 419e² (1906).—Rehder & Wilson in Sargent, Pl. Wilson. i. 155 (1913).

Cotoneaster microphylla Pritzelt in Bot. Jahrb. xxix. 386 (1900), pro parte.—Non Wallich.

SHENSI: Nulsei jen z, *G. Giraldis*, 1897.—See also Pritzelt, l. c.

DISTRIBUTION: also Hupeh, Szechuan.

Cotoneaster adpressa Bois in Vilmorin & Bois, Frut. Vilmorin. 116, fig. (1904).—Rehder & Wilson in Sargent, Pl. Wilson. i. 155 (1913).

KANSU: Min chow, *W. Purdom*, alt. 2800 m., no. 1033, 1910; Tao chow district, alt. 3000 m., *W. Purdom*, no. 1133, 1910.

DISTRIBUTION: also Szechuan and Kukuon region.

Cotoneaster Zabelii Schneider, Ill. Handb. Laubholz. i. 748, fig. 420-f-h (1906).—Rehder & Wilson in Sargent, Pl. Wilson. i. 166 (1913).—Hers in Jour. N. China Branch R. As. Soc. LIII. 109 (1922); Liste Ess. Lign. Honan, 9 (1922).

Cotoneaster vulgaris Pritzelt in Bot. Jahrb. xxix. 385 (1900).—Non Lindley.

Cotoneaster racemiflora var. *Veitchii* Hers in Jour. N. China Branch R. As. Soc. LIII. 109 (1922); Liste Ess. Lign. Honan, 9 (1922).—Non Rehder & Wilson.

HONAN: Lushih, Hiung eul shan, alt. 1400 m., *J. Hers*, nos. 883, 911, 915, October 10, 1919; Lushih, Kiao ho, alt. 1000 m., *J. Hers*, no. 969, October 13, 1919; Lushih, Lao kiun shan, alt. 2000 m., *J. Hers*, no. 1194, September 21, 1919; Sung hsien, Shih tze miao, alt. 1200 m., *J. Hers*, no. 1279, September 25, 1919; Yung ning, Tsi li ping, alt. 1000 m., *J. Hers*, no. 1328, September 30, 1919; Yung ning, Yo tze ping, alt. 1000 m., *J. Hers*, no. 830, October 4, 1919; Yu tai shan, *J. Hers*, no. 328, May, 1920; Hwei hsien, Shansi border, *J. Hers*, nos. 710, 758, June 19, 1919; Sung shan, *J. Hers*, no. 339, May 1, 1921.—See also Hers, l. c.

SHENSI: Kin qua san, *G. Giraldis*, July 10, 1897; Kan y san, *G. Giraldis*, 1897; Tai pei shan, *W. Purdom*, no. 1001, 1910; northwest of Han chung hsien, *W. Purdom*, no. 360, May 30, 1910.—See also Diels, l. c.

Hers no. 710 from Hwei hsien differs from the other specimens in its small broadly oval to suborbicular leaves measuring not more than 1 cm. in length except a few on a vigorous shoot which are up to 1.5 cm. long.

Cotoneaster foveolata Rehder & Wilson in Sargent, Pl. Wilson. i. 162 (1913).

SHENSI: Lung chow, Li kia po, alt. 1400 m., *J. Hers*, no. 2382, July 4, 1922 (flowering specimen).

DISTRIBUTION: also Hupeh.

Without fruit the identification of the specimen cannot be considered final, but it agrees in its characters well with specimens from Hupeh.

Cotoneaster acutifolia Turczaninow in Bull. Soc. Nat. Moscou, v. 190 (1832).—Maximowicz in Mém. Div. Sav. Acad. Sci. St. Pétersb. ix. 471 (Ind. Fl. Pekin.) (1859).—Rehder & Wilson in Sargent, Pl. Wilson. i. 158 (1913).—Hers in Jour. N. China Branch R. As. Soc. LIII. 109 (1922); Liste Ess. Lign. Honan, 9 (1922).

Cotoneaster acutifolia var. *pekinensis* Koehne, Deutsche Dendr. 158 (1893).

Cotoneaster moupinensis F. N. Meyer in U. S. Dept. Agric. Bur. Pl. Indust. Invent. Seeds Pl. Imp. xxxvii. 59, no. 36739 (1916).—Non Franchet.

Cotoneaster sp. F. N. Meyer, l. c. XLIII. 73, no. 40730 (1918).

Cotoneaster acutifolia var. *villosula* Hers in Jour. N. China Branch R. As. Soc. LIII. 109 (1922); Liste Ess. Lign. Honan, 9 (1922).—Non Rehder & Wilson.

CHILI: Po hua shan, *J. Hers*, no. 1454, July 1, 1921; Hsiao Wu tai shan, alt. 1600–2000 m., *F. N. Meyer*, no. 1263, August 21, 1913; *J. Hers*, nos. 1516, 1525, July 14, 1921; Hsiao Wu tai shan, Tieh ling sze, alt. 1300 m., *J. Hers*, nos. 2119, 2145, October 7, 1922; without precise locality, *Père Chagnet*, no. 85, 1919.—See also Turczaninow, l. c., Maximowicz, l. c., and Meyer, l. c. (1916).

HONAN: Lushih, Hiung eul shan, alt. 1400 m., *J. Hers*, nos. 905, 923, October 10, 1919; Lushih, Lao kiun shan, alt. 2000 m., *J. Hers*, no. 1173, September 21, 1919; Sung hsien, Shih tze miao, alt. 1200 m., *J. Hers*, no. 1293, September 25, 1919; Tsi yuan hsien, Tien tan shan, *J. Hers*, nos. 1887, 1888, September 21, 1921.—See also Hers, l. c.

SHANSI: Wu chai hsien, Ta nan kow, alt. 2000–3000 m., *Tchuang Kieh*, Hers no. 2007, September 7, 1922; Wu tai shan, alt. 1600 m., *J. Hers*, no. 2616, July 29, 1923; Nan yang shan, alt. 1500–2500 m., *J. Hers*, no. 2713, September 22–30, 1923.

KANSU: Fu arr yei, *F. N. Meyer*, no. 1978, October 7, 1914 (Herb. U. S. Dept. Agric.); near Kagoba, *F. N. Meyer*, no. 2255^a, November 1, 1914 (seeds only; plants under S. P. I. no. 40730 growing at Bell, Maryland; in Herb. U. S. Dept. Agric.).—See also Meyer, l. c. (1918).

Cotoneaster acutifolia var. *villosula* Rehder & Wilson in Sargent, Pl. Wilson. i. 158 (1913).

SHENSI: "Lao y san presso Zu lu," *G. Giraldis*, June 4, 1897, Kia tan san, *G. Giraldis*, July 14, 1897; Tai pei shan, *W. Purdom*, no. 1115, 1910; northwest of Han chung hsien, *W. Purdom*, no. 367, 1910.

DISTRIBUTION: also Hupeh and Szechuan.

Cotoneaster melanocarpa Loddiges, Bot. Cab. xvi. t. 1531 (1829).

Cotoneaster sp. F. N. Meyer in U. S. Dept. Agric. Bur. Pl. Indust. Invent. Seeds Pl. Imp. xxxvii. 59, no. 36740 (1916).

CHILI: Hsiao Wu tai shan, alt. above 2600 m., *F. N. Meyer*, no. 1344, August 23, 1913.—See also Meyer, l. c.

DISTRIBUTION: also northern and eastern Europe to the Caucasus, and Turkestan and through Siberia to Manchuria.

Cotoneaster gracilis Rehder & Wilson in Sargent, Pl. Wilson. 1. 167 (1913).

Cotoneaster nummularius Pritzel in Bot. Jahrb. xxxvi. beibl. lxxxii. 52 (1905).—Vix Fischer & Meyer.

SHENSI: Tai pei shan, *W. Purdom*, no. 1002, 1910.—See also Rehder & Wilson, l. c., and Pritzel, l. c.

KANSU: Yan pu ko, *F. N. Meyer*, no. 1965, October 6, 1914 (Herb. U. S. Dept. Agric.).

DISTRIBUTION: also Hupeh and Szechuan.

Cotoneaster racemiflora K. Koch var. *soongarica* Schneider, Handb. Laubholz k. 754, fig. 424i (1906).

HONAN: Cheng chow, cultivated, introduced from the hills, *J. Hers*, nos. 2498, 2581, May 1 and August 2, 1923; Teng feng hsien, Yu tai shan, alt. 600 m., *J. Hers*, nos. 205, 206, April 23, 1919.

SHANSI: mountains near Tsin ke, *F. N. Meyer*, no. 404, May, 1907; Lin hsien, Nan yang shan, alt. 2000–3000 m., *Tchuang Kieh*, *Hers* no. 2069, September 11, 1922.

DISTRIBUTION: also Szechuan and Yunnan; Turkestan to Songaria.

The identification of the specimens cited above is open to doubt; the pubescence of the leaves and of the inflorescence is rather slight and the leaves are more or less acute or acutish but less so, in no. 2069. The specimens from Cheng chow are in flower and in fruit and no. 2069 from Shansi is in fruit but the other specimens are very young with small flower buds.

Cotoneaster racemiflora var. *microcarpa* Rehder & Wilson in Sargent, Pl. Wilson. 1. 169 (1913).

KANSU: Tsing chow, alt. 1400 m., *J. Hers*, no. 2406, July 21, 1922.

DISTRIBUTION: also Szechuan.

The Kansu plant agrees exactly with the type specimen except that the leaves are somewhat larger, up to 2 cm. on the fruiting branchlets and up to 3 cm. on the shoot.

Cotoneaster multiflora Bunge in Ledebour, Fl. Alt. 11. 220 (1830).—Rehder & Wilson in Sargent, Pl. Wilson. 1. 170 (1913).—*Hers* in Jour. N. China Branch R. As. Soc. LIII. 109 (1922); *Liste Ess. Lign. Honan*, 9 (1922).

Cotoneaster reflexa Carrière in Rev. Hort. 1870–71, 520.—Bretschneider, Hist. Eur. Bot. Discov. China, 830 (1898).

Cotoneaster sp. *F. N. Meyer* in U. S. Dept. Agric. Bur. Pl. Ind. Invent. Seeds Pl. Imp. xxxvii. 59, no. 36738 (1916).

CHILI: east of Weichang, *W. Purdom*, no. 1003, 1909; Hsiao Wu tai shan, alt. 1700 m., *F. N. Meyer*, no. 1259, August 21, 1913; *J. Hers*, nos. 1522, 1529, July 14, 1921; Huai lai hsien, Liu shu chwang, alt. 800 m., *J. Hers*, no. 2081, October 3, 1922.—See also Rehder & Wilson, l. c., and Meyer, l. c.

HONAN: Teng feng hsien, Yu tai shan, alt. 800 m., *J. Hers*, nos. 298,

June 7, 1919 and no. 2787, September 27, 1923; Lushih, Hiung eul shan, alt. 1400 m., *J. Hers*, no. 885, October 10, 1919; Yung ning, Tsi li ping, about 1100 m., *J. Hers*, nos. 401, 1358, May 22, and September 30, 1919.—See also *Hers*, l. c.

SHANSI: Wu chai hsien, Ta nan kow, alt. 2000–3000 m., *Tchuang Kieh*, *Hers* no. 2005, September 7, 1922; Sheng shih ling, alt. 1500–2500 m., *Tchuang Kieh*, *Hers* no. 2061, September 9, 1922; Nan yang shan, alt. 1000–2200 m., *J. Hers*, no. 2719, September 22–30, 1923; Wen ju ho valley, alt. 1200 m., *J. Hers*, no. 2815, October 2, 1923.

SHENSI: Yenan fu, *W. Purdom*, nos. 1004, 1005, 1006, 1910; northwest of Han cheng hsien, *W. Purdom*, no. 1007, 1910; near Tchan hen li, alt. 1300 m., *F. N. Meyer*, no. 1924, September 17, 1914 (*Herb. U. S. Dept. Agric.*); Lung chow, Li kia po, alt. 1400 m., *J. Hers*, nos. 2373, 2387, July 4, 1922.

Cotoneaster multiflora var. *calocarpa* Rehder & Wilson in Sargent, *Pl. Wilson*. I. 170 (1913).

KANSU: Min chow, *W. Purdom*, no. 1032, 1910; Hung pi hsien, *J. Hers*, no. 2419, August 2, 1922.

DISTRIBUTION: also Szechuan.

This variety differs from the type only in its larger narrower leaves more attenuate at the apex and some specimens enumerated under the type approach this variety rather closely as *Hers*' no. 2081 from Chili and nos. 2373 and 2378 from western Shensi.

Cotoneaster Dammeri var. *radicans* Schneider, *Ill. Handb. Laubholz*. I. 760, fig. 428a–b (1906).—Rehder & Wilson in Sargent, *Pl. Wilson*. I. 176 (1912).—Farrer in *Jour. Roy. Hort. Soc.* XLII. 67 (1916).

KANSU: near Siku (ex Farrer, l. c.).

DISTRIBUTION: also Szechuan.

Pyracantha crenulata Roem. var. *kansuensis* Rehder in *Jour. Arnold Arb.* IV. 114 (1923).

Pyracantha crenulata F. N. Meyer in *U. S. Dept. Agric. Bur. Pl. Indust. Invent. Seeds Pl. Imp.* XLIII. 73, no. 40736 (1918).—Non Roemer.

KANSU: near Yau pu ko, *F. N. Meyer*, no. 1784, October 6, 1914.—See also Rehder, l. c., and Meyer, l. c.

Pyracantha Gibbsii A. B. Jackson in *Gard. Chron.* ser. 3, LX. 309, fig. 133₃, and 134 (1916).

? *Cotoneaster Pyracantha* Pritzel in *Bot. Jahrb.* XXIX. 386 (1900).—Non Spach.

? *Cotoneaster crenulata* Farrer in *Jour. Roy. Hort. Soc.* XLII. 68 (1916).—Non Roxburgh.

? SHENSI: (ex Pritzel, l. c.).

KANSU: near Hui hsien, *F. N. Meyer*, no. 1742, September 26, 1914.—See also Farrer, l. c.

DISTRIBUTION: also Hupeh, Szechuan, Yunnan, Hunan.

I have seen no specimens from Shensi, but I have little doubt that

Pritzels *Cotoneaster Pyracantha* is referable rather to *P. Gibbsii* which has a wide distribution than to *P. discolor* Rehd. known so far only from Hupeh and Kweichow and more different in its general appearance from *P. coccinea* Roem. (*Cotoneaster Pyracantha* Spach) than *P. Gibbsii*.

Crataegus cuneata Siebold & Zuccarini in Abh. Akad. Muench. iv. 2, 130 (Fl. Jap. Fam. Nat. i. 22) (1846).—Bailey, Gent. Herb. i. 179 (1920).—Hers in Jour. N. China Branch R. As. Soc. LIII. 109 (1922); Liste Ess. Lign. Honan, 10 (1922).

NORTHERN KIANGSU: Liu lin shan, near Hai chow, alt. about 200 m., *J. Hers*, nos. 612, 657, May 5, 1921; Hai chow hills, alt. 200 m., *Kang Fu Lai*, Hers no. 2292, October 8, 1922; without precise locality, *J. Hers*, no. 1012, 1919.

HONAN: Hwei hsien, Ta fu sze, *J. Hers*, no. 752, June 16, 1919; Tsi yuan Hsien, Tien tan shan, *J. Hers*, no. 1754, September 21, 1921.—See also Bailey, l. c., and Hers, l. c.

DISTRIBUTION: also Kiangsi, Chekiang, Fokien, Hupeh, Kweichow (*Handel-Mazzetti*, nos. 10469, 10770); southern Japan.

Crataegus hupehensis Sargent, Pl. Wilson. i. 179 (1913).—Bailey, Gent. Herb. i. 28 (1920).—Hers in Jour. N. China Branch R. As. Soc. LIII. 109 (1922); Liste Ess. Lign. Honan, 10 (1922).

HONAN: Teng feng hsien, Yu tai shan, *J. Hers*, nos. 231, 288, April 23 and June 17, 1919, no. 321, April 20, 1920; Sung hsien, San kuan miao, alt. about 1200 m., *J. Hers*, no. 545, May 24, 1919; Lushih, Hiung eul shan, alt. 1400 m., *J. Hers*, no. 904, October 10, 1919; Lushih, Kiao ho, alt. 1000 m., *J. Hers*, no. 966, October 12, 1919; Tsi yuan hsien, alt. 500 m., *J. Hers*, no. 2663, August 23, 1923; Tsi yuen hsien, Tien tan shan, *J. Hers*, nos. 1729, 1897, September 21, 1921; Yung ning, Tsi li ping, alt. 1000 m., *J. Hers*, nos. 481, 1332, 1369, May 22 and September 30, 1919; Lao kiun shan, alt. 900 m., *J. Hers*, no. 1233, September 23, 1919; Chikung shan, *L. H. Bailey*, June 19 and 30, 1917.—See also Bailey, l. c., and Hers, l. c.

DISTRIBUTION: also Kiangsi, Chekiang, Hupeh.

Crataegus Wilsonii Sargent, Pl. Wilson. i. 180 (1913).

HONAN: Sung hsien, Shih tze miao, alt. 1200 m., *J. Hers*, no. 1263, September 25, 1919; Lushih, Hiung eul shan, alt. 1400 m., *J. Hers*, no. 942, October 10, 1919; Yung ning, Tsi li ping, alt. 1000 m., *J. Hers*, no. 1378, September 30, 1919 (sterile).

DISTRIBUTION: also Hupeh.

Crataegus dsungarica Lange, Rev. Spec. Gen. Crataegi, 43 (1897).—Sargent, Pl. Wilson. i. 183 (1913).

SHANTUNG: Lau shan, *F. N. Meyer*, no. 285, August, 1907 (sterile).—See also Sargent, l. c.

DISTRIBUTION: also eastern Siberia.

Another specimen from Shantung, also sterile, collected by F. N. Meyer on the Po shan (No. 260, September, 1897) resembles *C. sanguinea* Pall., but without fruit a definite determination is not possible.

Crataegus Wattiana Hemsley & Lace in Jour. Linn. Soc. XVIII. 323, t. 40 (1891).—Bean in Bot. Mag. CXLV. t. 8818 (1919).

? *Crataegus Oxyacantha* Kanitz in Szechenyi, Keletasz. Utján. Tudom. Ered. II. 810 (Pl. Enum. 22) (1891); in Szechenyi, Wiss. Ergeb. Reis. Ostas. II. 699 (1898).—Non Linnaeus.

CHILI: Hsiao Wu tai shan, Tieb ling sze, alt. 1300 m., *J. Hers*, no. 2118, October 7, 1922.

SHANSI: Wu chai hsien, Ta nan kow, alt. 2000–3000 m., *Tchuang Kieh*, *Hers* no. 2019, September 7, 1922; Nan yang shan, alt. 1500–2500 m., *J. Hers*, no. 2725, September 22–30, 1923.

SHENSI: Kin tan san, *G. Giraldis*, July 14, 1897; Thui kio tsuen, *G. Giraldis*, September 25, 1897; Lao y san, *G. Giraldis*, 1897; Lung chow, Ki kia po, alt. 1400 m., *J. Hers*, no. 2383, July 4, 1922.

KANSU: Pelung mountains (brought in by Tibetans), *W. Purdom*, no. 1134, 1910; Chi shan, near Cheng hsien, *F. N. Meyer*, no. 1747, October 1, 1914 (Herb. U. S. Dept. Agric.).

DISTRIBUTION: also Beluchistan to Altai mountains.

The *Crataegus* enumerated by Kanitz as *Crataegus oxyacantha* is possibly this species, as it is the only *Crataegus* known from this region.

Crataegus pinnatifida Bunge in Mém. Div. Sav. Acad. Sci. St. Pétersb. II. 100 (Enum. Pl. Chin. Bor. 26) (1833).—Walpers, Rep. II. 58 (1843).—Turczaninow in Bull. Soc. Nat. Moscou, x. no. VII. 151 (1837).—Maximowicz in Mém. Div. Sav. Acad. Sci. St. Pétersb. IX. 471 (Ind. Fl. Pekin.) (1859).—Hance in Jour. Bot. VIII. 313 (1870).—Debeaux in Act. Soc. Linn. Bordeaux, XXXI. 154 (Fl. Tché-foû, 59) (1876).—Franchet in Nouv. Arch. Mus. Paris, sér. 2, v. 270 (Pl. David. I. 118) (1883); in Mém. Soc. Sci. Nat. Cherbourg, XXIV. 216 (Cat. Pl. Tché-foû) (1884).—Palibin in Act. Hort. Petrop. XIV. 118 (1895).—Bretschneider, Hist. Eur. Bot. Discov. China, 333 (1898).—Faber in Denkschr. Entwickel. Kiautschou, 32 (1898).—Sargent, Pl. Wilson. I. 182 (1913).—Loesener in Bot. Centralbl. Beih. XXXVII. abt. II. 113 (1919).—Limpricht, Bot. Reis. Hochgeb. Chin. Ost.-Tib. 405 (1922).—Hers in Jour. N. China Branch R. As. Soc. LIII. 109 (1922); Liste Ess. Lign. Honan, 10 (1922).

Mespilus pinnatifida K. Koch, Dendr. I. 152 (1869).—Ito in Tokyo Bot. Mag. XIV. 129 (1900).

Crataegus monogyna Gilg in Bot. Jahrb. XXXIV. beibl. LXXV. 39 (1904).—Non Jacquin.

Crataegus sp. F. N. Meyer in U. S. Dept. Agric. Bur. Pl. Indust. Invent. Seeds Pl. Imp. XV. 17, no. 22607 (1909).

CHILI: Weichang, *W. Purdom*, nos. 57, 1116, 1909; near Peking, western hills, *Warburg*, no. 6629; Lau shan, *F. N. Meyer*, no. 854a, December 3, 1907 (seeds only; plants under no. 22687 grown at Chico [Herb. U. S. Dept. Agric.]); Po hua shan, *J. Hers*, no. 1409, May 1, 1921; Hsiao Wu

tai shan, alt. 1700 m., *F. N. Meyer*, no. 1157, August 8, 1913; *J. Hers*, nos. 1507, 1521, 1567, July 14 and 16, 1921 (sterile).—See also Bunge, l. c., Walpers, l. c., Turczaninov, l. c., Maximowicz, l. c., Hance, l. c., Franchet, l. c. (1883), Bretschneider, l. c., Sargent, l. c., Limpricht, l. c., and Meyer, l. c.

SHANTUNG: Chifu, cultivated, *C. S. Sargent*, September 22, 1903; Po shan, *F. N. Meyer*, no. 260, September, 1907 (sterile; Herb. U. S. Dept. Agric.).—See also Debeaux, l. c., Franchet, l. c. (1884), Faber, l. c., Loesener, l. c., and Gilg, l. c.

NORTH KIANGSU: Liu lin shan, near Haichow, *J. Hers*, no. 647, May 5, 1921.

HONAN: Hwei hsien, Ping lo, *J. Hers*, no. 734, June 17, 1919.—See also *Hers*, l. c.

DISTRIBUTION: also Manchuria and Korea.

Crataegus pinnatifida var. *major* N. E. Brown in Gard. Chron. n. sér. xxvi. 621, fig. 121 (1886).—Sargent, Pl. Wilson. i. 182 (1913).

Crataegus pinnatifida Bretschneider, Hist. Eur. Bot. Discov. China, 105 (1898).—Vix Bunge.

CHILI: Nankow, cultivated, *J. G. Jack*, October 6, 1905 (fruiting branch); Peking, purchased from street vender, *F. N. Meyer*, no. 1337, April 22, 1913; Miao feng shan, alt. 1000 m., cultivated, *J. Hers*, no. 2536, June 17, 1923.—See also Sargent, l. c., Bretschneider, l. c.,

HONAN: Hwei hsien, Pei yao, *J. Hers*, no. 732, June 18, 1919; Cheng chow, cultivated, *J. Hers*, no. 92, May 10, 1920; Honan plain, cultivated, *J. Hers*, no. 338, April 24, 1921.

Osteomeles Schwerinae Schneider, Ill. Handb. Laubholz. i. 762, fig. 430m, 431o-r (1906).—Wilson in Sargent, Pl. Wilson. i. 184 (1912).

Osteomeles sp. Farrer in Jour. Roy. Hort. Soc. XLII. 87 (1916).

KANSU: near Siku (ex Farrer, l. c.).

There can be hardly any doubt that Farrer's plant belongs to *Osteomeles Schwerinae*, the only species of that genus known from western China.

Sorbus discolor Hedlund in Kongl. Svenska Vetensk.-Akad. Handl. xxxv. 37 (Monog. Sorbus) (1901).—Schneider, Ill. Handb. Laubholz. i. 669, fig. 366l-m, 367g (1906).—Koehne in Sargent, Pl. Wilson. i. 480 (1913).

Pyrus discolor Maximowicz in Mém. Div. Sav. Acad. St. Pétersb. ix. 103 (Prim. Fl. Amur.), 471 (Ind. Fl. Pekin.) (1859).

Pyrus Aucuparia Maximowicz in Bull. Acad. Sci. St. Pétersb. xix. 173 (1873); in Mém. Biol. ix. 170 (1873), pro parte.—Franchet in Nouv. Arch. Mus. Paris, sér. 2, v. 273 (Pl. David. i. 120) (1883).—Hemsley in Jour. Linn. Soc. xxiii. 255 (1887), pro parte.—? Kanitz in Szechenyi, Keletasz. Utján. Tudom. Erd. ii. 810 (Enum. Pl. 22) (1891); in Szechenyi, Wiss. Ergeb. Reise Ostas. ii. 699 (1898).—Non Linnaeus.

Sorbus pekinensis Koehne in Gartenfl. L. 406 (1901); in Sargent, Pl. Wilson. i. 481 (1913).

CHILI: Hsiao Wu tai shan, Tieh ling sze, alt. 1300 m., *J. Hers*, no. 2125, October 7, 1922; Hsiao Wu tai shan, Shui shih tao, alt. 1500 m.,

J. Hers, no. 2172, October 8, 1922; without precise locality, *Père Chanut*, nos. 78, 87, 1919.—See also Hedlund, l. c., Schneider, l. c., Koehne, l. c., Maximowicz, l. c., Franchet, l. c., and Hemsley, l. c.

HONAN: Lu shih, Lao kiun shan, alt. 2000 m., *J. Hers*, no. 1205, September 21, 1919; Tsi yuan hsien, Tien tan shan, *J. Hers*, nos. 1794, 1800, September 21, 1921; Teng feng hsien, Yu tai shan, alt. 800 m., *J. Hers*, no. 2785, September 27, 1923.

SHANSI: Nan yang shan, alt. 1500 to 2500 m., *J. Hers*, no. 2715, September 22–30, 1923; Yo yang hsien, alt. about 800 m., *J. Hers*, no. 2471, December 16, 1922 (leafless branches).

? SHENSI: Lung chow, Kuan shan, *J. Hers*, no. 2357, July 3, 1922 (sterile).

? KANSU: "Kumbum" (ex Kanitz, l. c.).

This species seems rather variable in the shape and size of the leaflets; no. 2715 from Shansi has narrow-lanceolate long-acuminate leaflets 4–8 cm. long, while in the specimens from Honan the leaflets are generally narrow-oblong, acute, scarcely acuminate and 2–4 cm. long. I have doubtfully referred to this species the plant from northwestern Kansu determined by Kanitz as *Pirus Aucuparia* as it is more likely to be identical with this northern species than with the more southern *S. hupehensis* found in Kansu south of the Tsin ling shan range.

Sorbus pohuashanensis Hedlund in Kongl. Svenska Vetensk.-Akad. Handl. xxxv. 33 (Monog. *Sorbus*) (1901).—Rehder in Mitt. Deutsch. Dendr. Ges. xv. 56 (1901).—Koehne in Sargent, Pl. Wilson. i. 481 (1913).

Pyrus pohuashanensis Hance in Jour. Bot. xiii. 132 (1875).

Pyrus Aucuparia Hemsley in Jour. Linn. Soc. xxiii. 255 (1887), quoad specimen e Pohuashan.—Non Linnaeus.

Sorbus sp. Meyer in U. S. Dept. Agric. Bur. Pl. Indust. Invent. Seeds Pl. Imp. xxxvii. 58, no. 36730 (1916).

CHILI: Weichang, *W. Purdom*, no. 18, May 31, 1909 and no. 47, 1909 (all sterile); Hsiao Wu tai shan, *F. N. Meyer*, no. 1241, August 20, 1913; *J. Hers*, nos. 1512, 1531, 1549, July 14, 1921 (sterile).—See also Hedlund, l. c., Rehder, l. c., Koehne, l. c., Hemsley, l. c., Hance, l. c., and Meyer, l. c.

SHANSI: Wu tai shan, alt. 1600 m., *J. Hers*, no. 2623, July 29, 1923; Wu chai hsien, Ta nan kow, alt. 2000 to 3000 m., *Tchuang Kieh*, *Hers* no. 2010, September 7, 1922.

In some specimens as in Meyer's no. 1241 and in no. 2010 from Shansi the leaflets are glabrous or nearly so and mostly entire below the middle and the stipules are wanting on two of the three fruiting branches seen.

Sorbus Giraldiviana Schneider, Ill. Handb. Laubholz. i. 672, fig. 369a (1906).—Koehne in Sargent, Pl. Wilson. i. 481 (1913).

SHENSI: Ngo san, *G. Giraldivi*, no. 5128 (ex Schneider, l. c., and Koehne, l. c.).

Sorbus tapashana Schneider in Bull. Herb. Boissier, sér. 2, vi. 313 (1906); Ill. Handb. Laubholz. i. 672, fig. 369b (1906).—Koehne in Sargent, Pl. Wilson. i. 482 (1913).

Pirus Aucuparia Pritzel in Bot. Jahrb. xxix. 387 (1900), pro parte.—Non Linnaeus.

SHENSI: Tai pei shan, *G. Giraldi* (ex Schneider, l. c., Koehne, l. c., and Pritzel, l. c.).

Sorbus hupehensis Schneider in Bull. Herb. Boissier, sér. 2, vi. 316 (1906); Ill. Handb. Laubholz. i. 680, fig. 374r, 375n (1906).—Hers in Jour. N. China Branch R. As. Soc. LIII. 116 (1922).

HONAN: Fu niu shan, alt. about 2000 m., *J. Hers*, no. 140, October 6, 1918.—See also Hers, l. c.

KANSU: Min chow, *W. Purdom*, no. 1034, 1910.

DISTRIBUTION: also Hupeh, Szechuan, Yunnan.

The Honan specimen which is in fruit is doubtful; it may belong to *S. discolor* Hedl. but without having seen flowering material of the Honan plant of either of these two species, I am not certain, if both species occur in that province, or if all the material belongs to one species.

Sorbus hupehensis var. *aperta* Schneider in Bot. Gaz. LXIII. 403 (1917).

Pirus Aucuparia Pritzel in Bot. Jahrb. xxix. 387 (1900), pro parte.—Non Linnaeus.

Sorbus aperta Koehne in Sargent, Pl. Wilson. i. 465 (1913).

SHENSI: Ta sce tsuen, *G. Giraldi*, September 18, 1897.—See also Pritzel, l. c., and Koehne, l. c.

KANSU: Chi shan, near Cheng hsien, *F. N. Meyer*, no. 1756, October 1, 1914.

DISTRIBUTION: also Hupeh.

Sorbus Koehneana Schneider in Bull. Herb. Boissier, sér. 2, vi. 316 (1906); Ill. Handb. Laubholz. i. 681, fig. 374o (1906).—Koehne in Sargent, Pl. Wilson. i. 471 (1913).—Hers in Jour. N. China Branch R. As. Soc. LIII. 116 (1922); Liste Ess. Lign. Honan, 29 (1922).

Pirus microphylla Pritzel in Bot. Jahrb. xxix. 387 (1900).—Non Wallich.

HONAN: Lushih, Lao kiun shan, alt. 2000 m., *J. Hers*, no. 1206, September 21, 1919.—See also Hers, l. c.

SHENSI: "Kian sian," *G. Giraldi*, August 4, 1897; Tai pei shan, *W. Purdom*, nos. 4, 1008, 1910.—See also Koehne, l. c., and Pritzel, l. c.

KANSU: western Kansu (brought in by Tibetans from over the border), *W. Purdom*, no. 1121, 1910.

DISTRIBUTION: also Hupeh.

Sorbus alnifolia K. Koch in Ann. Mus. Lugd.-Bat. i. 249 (1864).—Rehder in Sargent, Pl. Wilson. ii. 270 (1915).—Hers in Jour. N. China Branch R. As. Soc. LIII. 116 (1922); Liste Ess. Lign. Honan, 29 (1922).

Micromeles alnifolia Koehne, Gatt. Pomac. 21 (1890).—Loesener in Bot. Centralbl. Beih. xxxvii. abt. ii. 132 (1919).

Micromeles alnifolia var. *tiliaefolia* Schneider, Ill. Handb. Laubholz. i. 703, fig. 386e (1906).—Loesener in Bot. Centralbl. Beih. xxxvii. abt. ii. 132 (1919).

SHANTUNG: Lau shan and Cape Ya tau (ex Loesener, l. c.).

HONAN: Teng feng, Yu tai shan, *J. Hers*, nos. 297, 297bis, June 17,

1919; same locality, alt. 800 m., *J. Hers*, no. 2786, September 27, 1923; Lushih, Hung eul shan, alt. 1400 m., *J. Hers*, nos. 901, 912, October 10, 1919; Lushih, Lao kiun shan, alt. 2000 m., *J. Hers*, no. 1160, September 21, 1919; Sung hsien, San kuan miao, alt. 1000 m., *J. Hers*, no. 1307, September 27, 1919; Tsi yuan hsien, alt. 500 m., *J. Hers*, no. 2667, August 23, 1923; Tsi yuan hsien, Tien tan shan, *J. Hers*, nos. 1771, 1773, September 21, 1921; Tsi yuan hsien, Pei teng shan, alt. 1200 m., *J. Hers*, no. 2799, October 10, 1923.—See also *Hers*, l. c.

SHENSI: Lung chow, Kuan shan, alt. 2000 m., *J. Hers*, no. 2350, July 3, 1922.

DISTRIBUTION: also Hupeh; Korea, Japan.

Sorbus Folgeneri Rehder in Sargent, Pl. Wilson. II. 271 (1915).—*Hers* in Jour. N. China Branch R. As. Soc. LIII. 116 (1922); Liste Ess. Lign. Honan, 29 (1922).

Pirus Aria Pritzell in Bot. Jahrb. XXIX. 387 (1900).—Non Linnaeus.

HONAN: Chuan pao shan, alt. 1500 m., *J. Hers*, no. 1105, October 17, 1919.—See also *Hers*, l. c.

SHENSI: Ling yen tan, alt. 700 m., *J. Hers*, no. 2447, October 11, 1922.—See also Pritzell, l. c.

DISTRIBUTION: also Kiangsi, Hupeh, Szechuan, Kweichow, Hunan (*Fandel-Mazzetti*, no. 11838).

Photinia villosa DC. var. *sinica* Rehder & Wilson in Sargent, Pl. Wilson. I. 186 (1913).

? *Photinia* spec. Loesener in Bot. Centralbl. Beih. XXXVII. abt. II. 132 (1919).

? SHANTUNG: Lau shan (ex Loesener, l. c.).

NORTHERN KIANGSU: Liu lin shan, near Hai chow, *J. Hers*, nos. 642 (sterile, doubtful), 662, May 5, 1921; Hai chow hills, alt. 200 m., *Kang Fu Lai*, *Hers* no. 2309, October 8, 1922.

DISTRIBUTION (of the variety): also Kiangsi, Hupeh; (of the species): Korea, Japan, Formosa.

Cydonia oblonga Miller, Gard. Dict. (1768).—*Hers* in Jour. N. China Branch R. As. Soc. LIII. 109 (1922); Liste Ess. Lign. Honan, 10 (1922).

Pyrus Cydonia Linnaeus, Spec. 480 (1753).—Debeaux in Act. Soc. Linn. Bordeaux, XXXI. 156 (Fl. Tché-foû, 61) (1876).—Franchet in Mém. Soc. Sci. Nat. Cherbourg, XXIV. 216 (1884).—Faber in Denkschr. Entwickel. Kiautschou, 32 (1898).

Cydonia vulgaris Persoon, Syn. II. 40 (1807).—Ito in Tokyo Bot. Mag. XIV. 116 (1900).—Gilg in Bot. Jahrb. XXXIV. beibl. LXXV. 39 (1904).—Loesener in Bot. Centralbl. Beih. XXXVII. abt. II. 131 (1919).

SHANTUNG: Chifu, cultivated (ex Debeaux, l. c., Franchet, l. c., and Ito, l. c.); Tsing tau, cultivated (ex Faber, l. c., Gilg, l. c., and Loesener, l. c.).

HONAN: Yung ning, Shang ho, alt. 1000 m., *J. Hers*, no. 838, October 5, 1919 (cultivated according to Mr. *Hers*' list, though not stated so on the label).

SHENSI: Tai pei shan, *W. Purdom*, no. 960, 1910.

DISTRIBUTION: its native country is supposed to be Persia and Turkestan.

The Quince seems to be very little cultivated in China and apparently only in the northern provinces. It has been recorded from Shantung and Honan and Debeaux states that it is also found in Chili; he remarks that the fruits are much smaller than those of the plant of southern Europe, while Gilg and Loesener state that it has according to Nebel very large fruits. The fruit sent by Mr. Hers from Honan is pear-shaped and about 5 cm. long. There is also a specimen in the herbarium of this Arboretum from Kiangsu, collected near Nanking (Herb. Univ. Nanking, no. 371), this, too, is without doubt from a cultivated plant. Whether Purdom's Shensi specimen is from a cultivated or a wild plant is unfortunately not stated and there is still a possibility that the Quince may be a native of China and that it is only cultivated and naturalized in central and western Asia now supposed to be its native country, but the evidence we have so far is not yet convincing. In Chinese literature it seems to be confused with the Chinese Quince (*Chaenomeles sinensis* Koehne), though Hers states in the label to his no. 838 that it is called by the Chinese "mu li," while the Chinese Quince is called "mu kua li."

Chaenomeles lagenaria Koidzumi in Tokyo Bot. Mag. xxiii. 173 (1909).—Hers in Jour. N. China Branch R. As. Soc. LIII. 108 (1922); Liste Ess. Lign. Honan, 8 (1922).

Chaenomeles japonica Bunge in Mém. Div. Sav. Acad. Sci. St. Pétersb. II. 101 (Enum. Pl. Chin. Bor. 27) (1833).—Franchet in Nouv. Arch. Mus. Paris, sér. 2, v. 271 (Pl. David. I. 119) (1883).—Loesener in Bot. Centralbl. Beih. xxxvii. abt. II. 132 (1919).—Non Lindley.

Pyrus japonica Hemsley in Jour. Linn. Soc. xxiii. 257 (1887).—Non Thunberg.

Cydonia japonica Pritzel in Bot. Jahrb. xxix. 388 (1900).—Non Persoon.

Cydonia japonica var. *genuina* (Maxim.) Ito in Tokyo Bot. Mag. xiv. 117 (1900).

CHILI: Peking, cultivated (ex Bunge, l. c., and Hemsley, l. c.).

SHANTUNG: Pearl mountains, *O. Nebel* (ex Loesener, l. c.); Nan shan near Chifu, ? cultivated (ex Ito, l. c.).

HONAN: without special locality, cultivated (ex Hers, l. c.).

SHENSI: Tsin ling shan, *A. David* (ex Franchet, l. c., Hemsley, l. c., and Pritzel, l. c.).

KANSU: Tsing chow, alt. 1400 m., *J. Hers*, no. 2409, July 21, 1922 (sterile).—See also Hemsley, l. c.

DISTRIBUTION (including the varieties): also Hupeh and Szechuan.

The type probably occurs wild on the Tsin ling shan range in Shensi and eastern Kansu and is cultivated elsewhere. The var. *cathayensis* Rehd. grows spontaneously in Hupeh and the following variety in Szechuan and Kansu.

Chaenomeles lagenaria var. *Wilsonii* Rehder in Sargent, Pl. Wilson. II. 298 (1915).

KANSU: on open rocky slopes near Yan pu ko, *F. N. Meyer*, no. 1639, October 6, 1914.

DISTRIBUTION: also Szechuan.

Chaenomeles sinensis Koehne, Gatt. Pomac. 29 (1896), as "C. chinensis."—Loesener in Bot. Centralbl. Beih. xxxvii. abt. II. 132 (1919).—Hers in Jour. N. China Branch R. As. Soc. LIII. 108 (1922); Liste Ess. Lign. Honan, 8 (1922).

Cydonia sinensis Thouin in Ann. Mus. Paris, xix. 145, t. 8, 9 (1812).—Gilg in Bot. Jahrb. xxxix. beibl. Lxxv. 39 (1904), as "C. chinensis."

SHANTUNG: near Tsing tau (ex Loesener, l. c., and Gilg, l. c.).

NORTHERN KIANGSU: Wang kia shan, near Hai chow, *J. Hers*, no. 623, May 5, 1921.

HONAN: cultivated (ex Hers, l. c.).

DISTRIBUTION: also Chekiang and cultivated elsewhere by the Chinese for its large fragrant fruit.

Pyrus ussuriensis Maximowicz in Bull. Phys. Math. Acad. Sci. St. Pétersb. xv. 132 (1857); in Mém. Div. Sav. Acad. Sci. St. Pétersb. ix. 471 (Ind. Fl. Pekin.) (1859).—Rehder in Proc. Am. Acad. Sci. L. 227 (Syn. Chin. *Pyrus*) (1915).

Pyrus communis Bunge in Mém. Div. Sav. Acad. Sci. St. Pétersb. II. 101 (Enum. Pl. Chin. Bor. 27) (1833), pro parte.—Non Linnaeus.

Pyrus Simonii Carrière in Rev. Hort. 1872, 28, fig. 3.—Bretschneider, Hist. Eur. Bot. Discov. China, 830 (1898).

Pyrus sinensis Franchet, Nouv. Arch. Mus. Paris, sér. 2, v. 272 (Pl. David. I. 120) (1883).—Hemsley in Jour. Linn. Soc. xxiii. 258 (1887), pro parte.—Non Lindley.

CHILI: "Chin. bor.;" ex herb. Bunge (Gray Herb.); Hsiao Wu tai shan, *F. N. Meyer*, no. 1232, August 20, 1913; Po hau shan, *J. Hers*, no. 1653, September 9, 1921; Tsing shiu tsien, *J. Hers*, no. 1639, September 6, 1921.—See also Maximowicz, l. c. (1859), Rehder, l. c., Bunge, l. c., Franchet, l. c., and Hemsley, l. c.

SHANSI: Hia hsien, Huang lai kow, *J. Hers*, no. 1863, October 2, 1921; Wen jü ho valley, *J. Hers*, no. 2817, October 2, 1923.

DISTRIBUTION: also Manchuria, Korea.

Pyrus ussuriensis var. **ovoidea** Rehder in Jour. Arnold Arb. II. 60 (1920).

Pyrus ovoidea Rehder in Proc. Am. Acad. Sci. L. 228 (1915).—Bailey, Gent. Herb. I. 29 (1920).

HONAN: Kio shan, planted (ex Bailey, l. c.).

SHANSI: near Ping yang fu, cultivated, *F. N. Meyer*, no. 1663, July 31, 1914.

DISTRIBUTION: probably cultivated in Fokien, Yunnan and in Japan, apparently spontaneous in Korea and in Japan, or only naturalized in the latter country.

Pyrus Bretschneideri Rehder in Proc. Am. Acad. Sci. L. 231 (1915).

Pyrus communis Bunge in Mém. Div. Sav. Acad. Sci. St. Pétersb. II. 101 (Enum. Pl. Chin. Bor. 27) (1833), pro parte.—Non Linnaeus.

CHILI: cultivated near Peking, *F. N. Meyer*, no. 1402, April 29, 1915; near San tung ying, on stony hill slopes, *F. N. Meyer*, no. 996, June 3, 1913 (sterile); Po hua shan, alt. 1000 m., *J. Hers*, no. 2237, October 12, 1922.—See also Rehder, l. c.

This is probably the pai-li alluded to by Bretschneider (Hist. Eur. Bot. Discov. China, 830). It is uncertain whether this is a spontaneous species or a cultivated race or hybrid, a question which can be solved only by careful study and investigation on the spot. The trees growing in the Arnold Arboretum which were raised from seed sent by Dr. Bretschneider in 1882 are quite distinct from any other Pear known from eastern Asia. Hers' no. 2237 which belongs here according to the description of the fruit as given by Mr. Hers has rather finely serrulate leaves with short scarcely acuminate teeth.

Pyrus serotina Rehder in Proc. Am. Acad. Sci. L. 231 (1915).—Bailey, Gent. Herb. i. 29 (1920).

? *Pyrus communis* var. *α. Pyrastrer* Debeaux in Act. Soc. Linn. Bordeaux, xxxi. 155 (Fl. Tché-foû, 60) (1876).—Non De Candolle.

CHILI: Ming Tombs valley, *F. N. Meyer*, no. 185, October, 1905 (Herb. U. S. Agric. Dept.).

? SHANTUNG: near Chifu (ex Debeaux, l. c.).

HONAN: Chi kung shan, *L. H. Bailey*, June 30, 1917; Sung hsien, Shih tze miao, alt. 1200 m., *J. Hers*, no. 1260, September 25, 1919; Lushih, Hiung eul shan, alt. 1400 m., *J. Hers*, no. 898, October 10, 1919.

DISTRIBUTION: also Hupeh, Szechuan.

Pyrus serotina var. *culta* Rehder in Proc. Am. Acad. Sci. L. 233 (1915).—Hers in Jour. N. China Branch R. As. Soc. LIII. 114 (1922); Liste Ess. Lign. Honan, 24 (1922).

? *Pyrus communis* var. *sativa* Debeaux in Act. Soc. Linn. Bordeaux, xxxi. 156 (Fl. Tché-foû, 61) (1876).—Non De Candolle.

? *Pyrus communis* Thunberg, Fl. Jap. 207 (1784).—Faber, Denkschr. Entwickel. Kiautschou, 32 (1898).—Loesener in Bot. Centralbl. Beih. xxxvii. abt. II. 132 (1919).—Non Linnaeus.

Pyrus sinensis Faber, Denkschr. Entwickel. Kiautschou, 32 (1898).—Ito in Tokyo Bot. Mag. xiv. 117 (1900).—Gilg in Bot. Jahrb. xxxiv. beibl. lxxv. 39 (1904).—Loesener in Bot. Centralbl. Beih. xxxvii. abt. II. 132 (1919).

SHANTUNG: cultivated (ex Debeaux, l. c., Faber, l. c., Ito, l. c., Gilg, l. c., and Loesener, l. c.).

HONAN: cultivated (ex Hers, l. c.).

KANSU: Ho dien, cultivated, *F. N. Meyer*, no. 1865, July 7, 1914.

DISTRIBUTION: cultivated throughout China and Japan.

To this variety apparently belong most of the Pears cultivated in China except in the north where *P. ussuriensis* and *P. Bretschneideri* take its place. The European *P. communis* is not cultivated by the Chinese but is occasionally planted in the gardens of foreign residents and missionaries.

The closely related *P. serrulata* Rehd., differing chiefly in the serrulate leaves with short acute or acuminate, but not setosely acuminate teeth, in the 3-4, rarely 5, styles and in the smaller fruit, does not seem to occur in northern China if a sterile specimen from Hwei hsien, Honan (Hers' no. 720), does not belong here.

Pyrus phaeocarpa Rehder in Proc. Am. Acad. Sci. L. 235 (1915).

CHILI: near Peking, *E. Bretschneider* (ex Rehder, l. c.).

This species is known to me only from cultivated plants raised from seed sent to the Arnold Arboretum in 1882 by Dr. E. Bretschneider. It is most nearly related to *P. betulaefolia*, but easily distinguished by its larger usually 3-4-celled fruit, the larger more closely serrate glabrous leaves and the less tomentose branchlets and inflorescence. Besides the typical form with pear-shaped fruit, there is a form with globose fruit distinguished as f. *globosa* Rehd. (l. c.).

Pyrus betulaefolia Bunge in Mém. Div. Sav. Acad. Sci. St. Pétersb. II. 101 (Enum. Pl. Chin. Bor. 27) (1833).—Walpers, Rep. II. 53 (1843).—Maximowicz in Mém. Div. Sav. Acad. Sci. St. Pétersb. IX. 471 (Ind. Fl. Pekin.) (1859); in Bull. Acad. Sci. St. Pétersb. XIX. 172 (1873); in Mém. Biol. IX. 169 (1873).—Debeaux in Act. Soc. Linn. Bordeaux, XXXI. 156, (Fl. Tché-foû, 61) (1876).—Franchet in Mém. Soc. Sci. Nat. Cherbourg, XXIV. 217 (1884).—Hemsley in Jour. Linn. Soc. XXIII. 256 (1887).—Bretschneider, Hist. Eur. Bot. Discov. China, 333, 830, 1053 (1898).—Faber, Denkschr. Entwickel. Kiautschou, 32 (1898).—Pritzel in Bot. Jahrb. XXIX. 387 (1900), pro parte.—Gilg in Bot. Jahrb. XXXIV. beibl. LXXV. 39 (1904).—Rehder in Proc. Am. Acad. Sci. L. 236 (1915).—Loesener in Bot. Centralbl. Beih. XXXVII. abt. II. 132 (1919).—Bailey, Gent. Herb. I. 29 (1920).—Hers in Jour. N. China Branch R. As. Soc. LIII. 114 (1922); Liste Ess. Lign. Honan, 24 (1922).—Cowdry in Jour. N. China Branch R. As. Soc. LIII. 164 (Pl. Peitaiho) (1922).

Pirus sp. (an *P. betulaefolia* Bge.) Ito in Tokyo Bot. Mag. XIV. 118 (1900).

CHILI: Pao ting fu plain, *W. Purdom*, no. 1009, 1909; East cliff, Peitaiho, *N. H. Cowdry*, no. 153, May 23, 1919.—See also Bunge, l. c., Walpers, l. c., Maximowicz, l. c., Hemsley, l. c., and Rehder, l. c.

SHANTUNG: Lau shan, *F. N. Meyer*, no. 308, August, 1907; without precise locality, *F. N. Meyer*, no. 398, September, 1907.—See also Debeaux, l. c., Franchet, l. c., Hemsley, l. c., Faber, l. c., Gilg, l. c., Loesener, l. c., and Ito, l. c.

HONAN: Hwei hsien, Chung hu, *J. Hers*, no. 743, June 17, 1919; without precise locality, *J. Hers*, no. 33, 1918.—See also Hers, l. c.

SHANSI: Ping yang fu, *F. N. Meyer*, no. 1659, July 25, 1914.

SHENSI: Yen an fu, *W. Purdom*, no. 328, 1910.—See also Pritzel, l. c.

DISTRIBUTION: also Kiangsu, Kiangsi, Hupeh.

Pyrus Calleryana Decaisne, Jard. Fruit. I. in textu sub t. 8 (1872).—Maximowicz in Bull. Soc. Nat. Moscou, LIV. pt. I. 18 (1879).—Hemsley in Jour. Linn. Soc. XXIII. 256 (1887).—Bailey, Gent. Herb. I. 29 (1920).—Hers in Jour. N. China Branch R. As. Soc. LIII. 114 (1922); Liste Ess. Lign. Honan, 24 (1922).

SHANTUNG: Chifu (ex Maximowicz, l. c., and Hemsley, l. c.).

HONAN: Lushih, Tung ho, alt. 1000 m., *J. Hers*, no. 991^{bis}, October

14, 1919; Lushih, Lao kiun shan, alt. 2000 m., *J. Hers*, no. 1147, September 21, 1919; Yung ning, Tsi li ping, alt. 1000 m., *J. Hers*, no. 477, May 22, 1919 and nos. 1333, 1352, 1365, September 30, 1919; Tsi yuan hsien, Tien tan shan, *J. Hers*, no. 1720, September 20, 1921.—See also Bailey, l. c., and Hers, l. c.

SHANSI: Lien ma, *F. N. Meyer*, no. 1658, July 30, 1914.

DISTRIBUTION: also Hupeh, Chekiang, Kiangsi, Fokien and Kwangtung.

Pyrus kolupana Schneider, Ill. Handb. Laubholz. i. 665 (1906); in Fedde, Rep. Nov. Spec. iii. 120 (1907).

Pyrus betulifolia Pritzel in Bot. Jahrb. xxix. 387 (1900), pro parte.—Non Bunge.

SHENSI: Kolupa, *G. Giraldu*, nos. 1050 and 5105 (ex Schneider, l. c., and Pritzel, l. c.).

Pyrus pashia Hamilton apud D. Don, Prodr. Fl. Nepal. 236 (1825).—Rehder in Proc. Am. Acad. Sci. L. 238 (1915).

Pyrus serrulata F. N. Meyer in U. S. Dept. Agric. Bur. Pl. Indust. Invent. Seeds Pl. Imp. XLIII. 72, nos. 40724, 40725 (1918).—Non Rehder.

SHANSI: near Wu chai, *F. N. Meyer*, no. 1657, July 19, 1914.

KANSU: near Liang Tang on rocky mountain slopes, *F. N. Meyer*, nos. 1946, 1947, 1952, September 24 and 25, 1914.

DISTRIBUTION: also Szechuan, Yunnan; Himalayas.

The extension of the range of an Himalayan species as far northeast as Shansi is unusual, but the leaves of the specimen agree well with those of *P. pashia* and the solitary fruit is small, 3-celled and has a persistent calyx, as is sometimes the case in *P. pashia*; the specimens from Kansu are very similar and have partly persistent and partly deciduous calyx.

The account given above of the pears of northern China is necessarily incomplete and unsatisfactory, as the material at my disposition is very fragmentary, in many cases consisting only of sterile branches. We cannot hope to arrive at a satisfactory understanding and classification of the Chinese pears, spontaneous and cultivated, unless we have ample flowering and fruiting material from the same locality or still better from the same tree with notes on the color and nature of the fruit and reliable statements whether the tree is cultivated or spontaneous or possibly escaped from cultivation.

Malus prunifolia Borkhausen, Handb. Forstbot. ii. 1278 (1803).—Rehder in Sargent, Pl. Wilson. ii. 288 (1915).

? *Pyrus Malus* var. *glabra* Debeaux in Act. Soc. Linn. Bordeaux, xxxi. 155 (Fl. Tché-foû, 60) (1876).—Non W. D. Koch.

? SHANTUNG: Chifu (ex Debeaux, l. c.).

SHANSI: Ping yang fu, cultivated, *F. N. Meyer*, no. 1666, July 31, 1914 (Herb. U. S. Dept. Agric.).

DISTRIBUTION: Siberia.

According to Debeaux's description "fructibus parvis acerbis, foliis germinibusque glaberrimis" his plant must be either typical *M. prunifolia* or possibly *M. baccata* Mill., but the former is not known from China at all and it is therefore doubtful if it occurs spontaneously in Shantung. Meyer's specimen which is sterile is perfectly glabrous and therefore seems to belong here rather than to var. *rinki*.

Malus prunifolia Borkh. var. *rinki* Rehder in Sargent, Pl. Wilson. II. 279 (1915).

Pyrus Malus Bunge in Mém. Div. Sav. Acad. Sci. St. Pétersb. II. 101 (Enum. Pl. Chin. Bor. 27) (1833).—Debeaux in Act. Soc. Linn. Bordeaux, XXXIII. 43 (Fl. Tien-tsin, 20) (1879).—Franchet in Mém. Soc. Sci. Nat. Cherbourg, XXIV. 216 (1884).—Hemsley in Jour. Linn. Soc. XXIII. 257 (1887).—Faber, Denkschr. Entwickel. Kiautschou, 32 (1898).—Non Linnaeus.

? *Pyrus prunifolia* Debeaux in Act. Soc. Linn. Bordeaux, XXXI. 155 (Fl. Tché-fou, 60) (1876).—Franchet in Mém. Soc. Sci. Nat. Cherbourg, XXXI. 216 (1884).—Non Willdenow.

Pyrus Malus β. *tomentosa* Franchet in Mém. Soc. Sci. Nat. Cherbourg, XXXI. 216 (1884).—Ito in Tokyo Bot. Mag. XIV. 118 (1900).—Non W. D. Koch.

Malus domestica Loesener in Bot. Centralbl. Beih. XXXVII. abt. II. 132 (1919).—Non Borkhausen.

CHILI: Peking, western hills, *J. Hers*, nos. 2245, 2246, 2253 (abnormal flowering), October 14, 1922; Ta han king, *J. Hers*, no. 1640, September 7, 1921; Hsiao Wu tai shan, cultivated, *F. N. Meyer*, no. 1234, August 20, 1913 (Herb. U. S. Dept. Agric.); Po hua shan, *J. Hers*, no. 1385, May 1, 1921.—See also Bunge, l. c., and Debeaux, l. c. (1879).

SHANTUNG: Chifu (ex Franchet, l. c., and Debeaux, l. c. [1876]); Tsing tau (ex Faber, l. c., Ito, l. c., and Loesener, l. c.).

HONAN: Chengchow, more or less wild, used as stock, *J. Hers*, no. 1908, April 15, 1922.

DISTRIBUTION: Hupeh; cultivated elsewhere in China and in Korea and Japan.

This is apparently the Apple commonly cultivated in China. According to Wilson it occurs spontaneous in Hupeh; also Hers' no. 1385 from the Po hua shan, Chili, may be from a tree growing wild. The specimen from Cheng chow looks much like *M. pumila* Mill. as it has rather short densely villose pedicels, but without fruit, its determination rests doubtful and it seems safer to consider it a form of the Chinese Apple.

Malus spectabilis Borkhausen, Handb. Forstbot. II. 1279 (1803).—Rehder in Sargent, Pl. Wilson. II. 289 (1915).—Hers in Jour. N. China Branch R. As. Soc. LII. 112 (1922); Liste Ess. Lign. Honan, 19 (1922).

Pyrus spectabilis Aiton, Hort. Kew. II. 175 (1789).—Bunge in Mém. Div. Sav. Acad. Sci. St. Pétersb. II. 289 (Enum. Pl. Chin. Bor. 27) (1833).—Maximowicz in Bull. Acad. Sci. St. Pétersb. XIX. 170 (1873); in Mém. Biol. IX. 166 (1873), excl. synonym.—Franchet in Nouv. Arch. Mus. Paris, sér. 2, v. 271 (Pl. David. I. 119) (1883); in Mém. Soc. Sci. Nat. Cherbourg, XXIV. 217 (Cat. Pl. Tché-fou) (1884).—Hemsley in Jour. Linn. Soc. XXIII. 258 (1887), exclud. syn. plur. et plantis e Kiangsi et Hupeh.—Bailey, Gent. Herb. I. 29 (1920).

Malus sp. *F. N. Meyer* in U. S. Dept. Agric. Bur. Pl. Indust. Invent. Seeds Pl. Imp. XXXIX. 105, no. 38231 (1917).

CHILI: Peking, Imperial gardens, *C. S. Sargent*, September 17, 1903.—See also Rehder, l. c., Bunge, l. c., Maximowicz, l. c., Franchet, l. c. (1883), Hemsley, l. c., and Bailey, l. c.

SHANTUNG: Chifu (ex Franchet, l. c. [1884]).

HONAN: Yu tai shan, *J. Hers*, no. 317, April 20, 1920.—See also Hers, l. c.

SHENSI: Sian fu, planted, *F. N. Meyer*, no. 1106, January 30, 1914 (grafts only; plants growing at Chico, California).

This species is known only as a cultivated plant; also Hers' no. 317 from Honan, though there is no statement on the label and it is not marked as cultivated in his published list, is apparently from a planted tree, as it has semi-double flowers.

Malus baccata Borkhausen, Handb. Forstbot. II. 1280 (1803).—Rehder in Sargent, Pl. Wilson. II. 291 (1915).—Loesener in Bot. Centralbl. Beih. XXXVII. abt. II. 132 (1919).

Pyrus baccata Linnaeus, Mant. 75 (1767).—Hance in Jour. Bot. XIII. 132 (1875).—Hemsley in Jour. Linn. Soc. XXXIII. 255 (1887).

Pyrus baccata *a. sibirica* Maximowicz in Bull. Acad. Sci. St. Pétersb. XIX. 170 (1873); in Mém. Biol. IX. 166 (1873).—Franchet in Nouv. Arch. Mus. Paris, sér. 2, v. 272 (Pl. David. I. 120) (1883).

Pyrus baccata *β. mandshurica* Maximowicz in Bull. Acad. Sci. St. Pétersb. XIX. 170 (1873); in Mém. Biol. IX. 166 (1873), quoad plantam glabratum Pekinensem.—Bretschneider, Hist. Eur. Bot. Discov. China, 1053 (1898).

CHILI: Jehol, *A. David*, no. 1728 (Gray Herb.); Weichang, *W. Purdom*, no. 23, 1909; Shi fen ko, *F. N. Meyer*, no. 998, June 3, 1913 (Herb. U. S. Dept. Agric.); near Peking, *O. Warburg*, no. 6611; Po hua shan, *J. Hers*, no. 1426, May 1, 1921; Liang feng kow, *J. Hers*, nos. 1644, 1647, September 8, 1921; Miao Feng shan, *J. Hers*, no. 2535, June 17, 1923; Hsiao Wu tai shan, alt. 1600 m., *F. N. Meyer*, no. 1254, August 21, 1913.—See also Rehder, l. c., Hemsley, l. c., Franchet, l. c., Maximowicz, l. c., and Bretschneider, l. c.

SHANTUNG: Tung hu shui and Lau shan (ex Loesener, l. c.).

SHANSI: Wu chai hsien, Ta nan kow, alt. 2000 to 3000 m., *Tchuang Kieh*, Hers no. 2039, September 7, 1922; Wu tai shan, alt. 1300 m., *J. Hers*, no. 2612, July 29, 1923; Schao yü, *F. N. Meyer*, no. 1877, July 22, 1914 (Herb. U. S. Dept. Agric.).

SHENSI: Yen an fu, *W. Purdom*, no. 329, 1910; Lung chow, Li kia po, *J. Hers*, no. 2386, July 4, 1922.—See also Rehder, l. c.

KANSU: south of Hoang ho, *P. J. Piaszeski* (ex Hemsley, l. c.).

DISTRIBUTION: also Manchuria, eastern Siberia.

Malus baccata f. gracilis Rehder in Jour. Arnold Arb. II. 49 (1920).

NORTHERN CHINA: (ex Rehder, l. c.).

This form differs from the type chiefly in its lower stature, slender pendent branches, comparatively narrower obtusely serrulate leaves on slenderer petioles, in the smaller flowers with often only 4 styles and in the small fruit. It is known only from cultivated plants raised

from seed sent by Mr. Purdom from northern China without indication of precise locality.

Malus baccata var. **mandshurica** Schneider, Ill. Handb. Laubholzk. i. 721, fig. 397n (1906).—Rehder in Sargent, Pl. Wilson. ii. 281 (1915).

Pyrus baccata β. *mandshurica* Maximowicz in Bull. Acad. Sci. St. Pétersb. xix. 170 (1873); in Mém. Biol. ix. 166 (1873), excl. planta glabrata Pekinensi.—Franchet in Nouv. Arch. Mus. Paris, sér. 2, v. 272 (Pl. David. i. 120) (1883).—Bretschneider, Hist. Eur. Bot. Discov. China, 1053 (1898).—Ito in Tokyo Bot. Mag. xiv. 119 (1900).

Malus baccata Hers in Jour. N. China Branch R. As. Soc. LIII. 112 (1922); Liste Ess. Lign. Honan, 18 (1922).—Vix Borkhausen.

CHILI: near Jehol, *A. David* (ex Franchet, l. c.).

SHANTUNG: near Chifu and on Island of Liu kung (ex Ito, l. c.).

NORTHERN KIANGSU: Liu lin shan, near Hai chow, *J. Hers*, no. 633, May 5, 1921; Hai chow hills, alt. about 200 m., *Kang Fu Lai*, Hers no. 2306, October 8, 1922.

HONAN: Tsi yuan hsien, Tien tan shan, *J. Hers*, no. 1815, September 21, 1921; Cheng chow, cultivated, *J. Hers*, no. 3, May 9, 1919; Lushih, Lao kiun shan, alt. 2000 m., *J. Hers*, no. 1161, September 21, 1919.

DISTRIBUTION: Kiangsi, Hupeh; eastern Siberia, Korea, Japan.

Malus robusta (*M. baccata* × *prunifolia*) Rehder in Jour. Arnold Arb. ii. 54 (1920).

I have no doubt that this hybrid, cultivated in many forms in this country and in Europe, occurs in northern China, though I have seen no specimens.

Malus robusta var. **persicifolia** Rehder, l. c. 55 (1920).

NORTHERN CHINA: without locality, *W. Purdom*, no. 179 (seeds only; plants raised in the Veitchian nurseries are now growing in this Arboretum).

Malus theifera Rehder in Sargent, Pl. Wilson. ii. 283 (1915).—Hers in Jour. N. China Branch R. As. Soc. LIII. 116 (1922); Liste Ess. Lign. Honan, 29 (1922).

HONAN: Teng feng, Yu tai shan, alt. 800 m., *J. Hers*, no. 237, April 23, 1919; Lushih, Hiung eul shan, alt. 1400 m., *J. Hers*, no. 906, October 10, 1919; Yung ning, Chuan pao shan, alt. 1500 m., *J. Hers*, no. 1115, October 17, 1919; Tsi yuan hsien, Tien tan shan, *J. Hers*, no. 1710, September 20, 1921.—See also Hers, l. c.

SHENSI: near Kwan yin tang, alt. 1200 m., *F. N. Meyer*, no. 1901, September 15, 1914; Po uo li, *G. Giraldi*, July 25–30, 1897.—See also Rehder, l. c.

DISTRIBUTION: also Chekiang, Kiangsi, Hupeh, Szechuan, Kweichow, Yunnan; Assam.

Malus transitoria Schneider, Ill. Handb. Laubholzk. i. 726 (1906).—Rehder in Sargent, Pl. Wilson. ii. 295 (1915).

Pyrus transitoria Batalin in Act. Hort. Petrop. XIII. 95 (1893).—Bretschneider, Hist. Eur. Bot. Discov. China, 975 (1898).

SHENSI: Yen-an fu district, *W. Purdom*, no. 322, 1910.

KANSU: Tibetan country southwest of Choni, *W. Purdom*, no. 1046, 1910; brought in by Tibetans from south of the Peling Mountains, *W. Purdom*, no. 1135, 1910.—See also Schneider, l. c., Rehder, l. c., and Batalin, l. c.

Malus toringoides Hughes in Kew Bull. Misc. Inform. 1920, 205, fig. B, a-e.

Malus transitoria var. *toringoides* Rehder in Sargent, Pl. Wilson. I. 286 (1915).

KANSU: near Fu orr yei, *F. N. Meyer*, no. 1975, October 7, 1914 (Herb. U. S. Dept. Agric.).

Malus kansuensis Schneider in Fedde, Rep. Spec. Nov. III. 178 (1906).—Rehder in Sargent, Pl. Wilson. II. 286 (1915).

Pyrus kansuensis Batalin in Act. Hort. Petrop. XIII. 94 (1893).

SHENSI: near Kwan yin tang, *F. N. Meyer*, no. 1906, September 15, 1914 (Herb. U. S. Dept. Agric.).

KANSU: Tibetan country, south of Tow River, *W. Purdom*, no. 1142, 1910.—See also Rehder, l. c.

DISTRIBUTION: also Hupeh, Szechuan.

Malus kansuensis f. *calva* Rehder in Jour. Arnold Arb. II. 50 (1920).

SHENSI: Tai pei shan, *W. Purdom*, no. 1118, 1910.—See also Rehder, l. c.

DISTRIBUTION: also Hupeh, Szechuan.

Malus honanensis Rehder in Jour. Arnold Arb. II. 51 (1920).—Hers in Jour. N. China Branch R. As. Soc. LIII. 112 (1922); Liste Ess. Lign. Honan, 19 (1922).

HONAN: Sung hsien, Shih tze miao, *J. Hers*, nos. 489, 573, May 26, 1919; Teng feng hsien, Yu tai shan, alt. 800 m., *J. Hers*, nos. 222, 222^{bis}, April 23 and June 17, 1919, no. 322, April 20, 1920; Tsi yuan hsien, Tien tan shan, *J. Hers*, nos. 1691, 1784, 1797, September 16 and 21, 1921; Hwei hsien, Shang lieh kiang, *J. Hers*, no. 725, June 17, 1919; Cheng chow, cultivated, *J. Hers*, nos. 194, 195, April 24 and May 5, 1921, no. 2495, May 1, 1923.—See also Rehder, l. c., and Hers, l. c.

SHENSI: Lung chow, Kuan shan, alt. 2000 m., *J. Hers*, no. 2353, July 3, 1922 (sterile).

Amelanchier asiatica var. *sinica* Schneider, Ill. Handb. Laubholz. I. 736, fig. 410 i-i', 412c-d (1906).—Wilson in Sargent, Pl. Wilson. I. 195 (1912).—Hers in Jour. N. China Branch R. As. Soc. LIII. 106 (1922); Liste Ess. Lign. Honan, 3 (1922).

Amelanchier asiaticus Pritzell in Bot. Jahrb. XXIX. 389 (1900).—Hers in Jour. N. China Branch R. As. Soc. LIII. 106 (1922); Liste Ess. Lign. Honan, 3 (1922).

HONAN: Sung hsien, San kuan miao, alt. about 1200 m., *J. Hers*, nos. 503, 504, May 24, 1919, nos. 1301, 1324, September 27, 1919; Lushih, Kiao ho, alt. 1000 m., *J. Hers*, no. 973, October 13, 1919; Lushih, Lao kiun shan, alt. 2000 m., *J. Hers*, no. 1155, September 21, 1919; Yung ning, Tsi li ping, alt.

about 1000 m., *J. Hers*, no. 1357, September 30, 1919; Tsi yuan hsien, Tien tan shan, *J. Hers*, nos. 1730, 1895, 1896, September 21, 1921.—See also *Hers*, l. c.

SHENSI: Kan y san, west of Lao y san, *G. Giraldi*, June 11–12, 1897; Ling yen tan, alt. 700 m., *J. Hers*, no. 2445, October 11, 1922.

DISTRIBUTION: also Hupeh, Szechuan; (of the species): Japan and Korea.

Rubus saxatilis Linnaeus, Spec. 494 (1753).—Franchet in *Nouv. Arch. Mus. Paris*, sér. 2, v. 261 (Pl. David. I. 109) (1883).—Hemsley in *Jour. Linn. Soc.* XXIII. 237 (1887).—Limpricht, *Bot. Reis. Hochgeb. Chin. Ost-Tib.* 407 (1922).

CHILI: Hsiao Wu tai shan, *F. N. Meyer*, no. 1345, August 23, 1913 (Herb. U. S. Dept. Agric.).—See also Franchet, l. c., Hemsley, l. c., and Limpricht, l. c.

DISTRIBUTION: also Northern Asia, Europe.

Rubus xanthocarpus Bureau & Franchet in *Jour. de Bot.* v. 46 (1891).—Regel in *Gartenfl.* XLI. 108 (1892).—Bretschneider, *Hist. Eur. Bot. Discov. China*, 1028 (1898).—Focke in *Bibl. Bot.* LXXII. 29 (Spec. Rub.) (1910).

KANSU: Kuan chuan, *F. N. Meyer*, no. 1979, October 7, 1914 (Herb. U. S. Dept. Agric.).—See also Regel, l. c., Bretschneider, l. c., and Focke, l. c.

DISTRIBUTION: also Szechuan.

Rubus Lambertianus Seringe in *De Candolle, Prodr.* II. 567 (1825).—Bailey, *Gent. Herb.* I. 30 (1920).

Rubus Lambertianus subsp. *hakonensis* (Franchet & Savatier) Focke in *Bot. Jahrb.* XXIX. 392 (1900); in *Bibl. Bot.* LXXII. 70 (Spec. Rub.) (1910).

HONAN: Chi kung shan (ex Bailey, l. c.).

SHENSI: *G. Giraldi*, no. 1080 (ex Focke, l. c. [1900]).

DISTRIBUTION: also central and eastern China; Formosa, Japan.

Rubus corchorifolius Linnaeus fl., Suppl. 263 (1781).—Franchet in *Nouv. Arch. Mus. Paris*, sér. 2, v. 261 (Pl. David. I. 109) (1883).—Bailey, *Gent. Herb.* I. 30 (1920).

Rubus corchorifolius α . *typica* Focke in *Bot. Jahrb.* XXIX. 391 (1900).

CHILI: on stony soil, near Shan hai kwan, *F. N. Meyer*, no. 269, October, 1905 (Herb. U. S. Dept. Agric.).

SHENSI: *A. David* (ex Franchet, l. c.) and *G. Giraldi* (ex Focke, l. c.).

HONAN: Chikung shan (ex Bailey, l. c.).

DISTRIBUTION: also central and eastern China; Japan.

Rubus crataegifolius Bunge in *Mém. Div. Sav. Acad. Sci. St. Pétersb.* II. 98 (Enum. Pl. Chin. Bor. 24) (1833).—Walpers, *Rep.* II. 21 (1843).—Maximowicz in *Mém. Div. Sav. Acad. Sci. St. Pétersb.* IX. 471 (Ind. Fl. Pekin.) (1859); in *Bull. Acad. Sci. St. Pétersb.* XVII. 153 (1872); in *Mél. Biol.* VIII. 383 (1872).—Hance in *Jour. Bot.* XIII. 132 (1875); XXII. 42 (1884).—Franchet in *Nouv. Arch. Mus. Paris*, sér. 2, v. 261 (Pl. David. I. 109) (1883).—Hemsley in *Jour. Linn. Soc.* XXIII. 230 (1887).—Bretschneider, *Hist. Eur.*

Bot. Discov. China, 333 (1898).—Loesener in Bot. Centralbl. Beih. xxxvii. abt. ii. 133 (1919).

Rubus Davidianus Kuntze, Meth. Speciesbeschr. Rubus, 58, 77, 80 (1879).

CHILI: Hsiao Wu tai shan, *F. N. Meyer*, no. 1356, August 28, 1913; Hsiao Wu tai shan, Shui shih tao, alt. 1500 m., *J. Hers*, nos. 2152 and 2186, October 8, 1922; Po hua shan, *J. Hers*, no. 1446, July 1, 1921; Peking, western hills, *J. Hers*, no. 1614, September 4, 1921; *N. H. Cowdry*, no. 1298^b, October 12, 1920; Men tow kow, alt. 500 m., *J. Hers*, no. 2555, July 8, 1923; Pan shan, mountain ravines, *N. H. Cowdry*, no. 1298^a, July 8, 1920; Huai lai hsien, Yang kia ping, alt. 900 m., *J. Hers*, no. 2103, October 4, 1922; Chang li, *F. N. Meyer*, no. 193, October, 1905; *Père Chanet*, no. 56, 1919.—See also Bunge, l. c., Maximowicz, l. c., Hance, l. c., Franchet, l. c., and Hemsley, l. c.

SHANTUNG: Chifu, among rocks, *N. H. Cowdry*, nos. 579 and 619, July and August, 1920; Tai shan, *J. Hers*, no. 1928, June 18, 1922.—See also Loesener, l. c.

DISTRIBUTION: also Manchuria, Korea, Japan.

I have little doubt that Kuntze's *R. Davidianus* belongs here, though Kuntze describes the fruit as white; I do not know if white-fruited forms exist, but in some herbarium specimens before me, e. g. Faurie's no. 6083 from Asama, Japan, and Sargent's specimens collected September 6, 1892, at Yumoto, Japan, the dried fruits give the impression of having been white.

Rubus pungens Cambessèdes in Jacquemont, Voy. iv. 48, t. 59 (1843).—Focke in Bot. Jahrb. xxxvi. beibl. lxxxii. 53 (1905); in Bibl. Bot. lxxii. 165 (Spec. Rub.) (1911).

SHENSI: Lao y shan, *G. Giraldi*, no. 5206 (ex Focke, l. c.).

DISTRIBUTION: also Hupeh, Yunnan; Kashmir, Punjab; Japan.

Rubus pungens var. *indefensus* Focke in Bot. Jahrb. xxxvi. beibl. lxxxii. 53 (1905); in Bibl. Bot. lxxii. 165 (Spec. Rub.) (1911).

SHENSI: Huan tou shan, Kian shan, *G. Giraldi*, nos. 5203, 5204, 5205, 5207 (ex Focke, l. c. [1905]).

DISTRIBUTION: also Hupeh.

Rubus amabilis Focke in Bot. Jahrb. xxxvi. beibl. lxxxii. 53 (1905); in Bibl. Bot. lxxii. 163, fig. 70 (Spec. Rub.) (1911).

SHENSI: Tai pei shan, *W. Purdom*, no. 962, 1910.—See also Focke, l. c.

DISTRIBUTION: also Hupeh, Szechuan.

Rubus biflorus Buchanan-Hamilton apud Smith in Rees, Cyclop. xxx. no. 9 (1819).—Focke in Bot. Jahrb. xxxvi. beibl. lxxxii. 397 (1905).

SHENSI: Hua tzo pin, *G. Giraldi*, no. 1072 (ex Focke, l. c.).

DISTRIBUTION: also Szechuan, Yunnan; Himalayas.

Rubus pileatus Focke in Hooker's Icon. xx. text sub t. 1952, p. 3 (1891); in Bot. Jahrb. xxxvi. beibl. lxxxii. 53 (1905).

SHENSI: Kian shan, Lao y shan, *G. Giraldi*, no. 5224 (ex Focke, l. c. [1905]).

DISTRIBUTION: also Hupeh, Szechuan.

Rubus lasiostylus Focke in Hooker's Icon. xx. t. 1951 (1891).—Focke in Bot. Jahrb. xxix. 397 (1900).

? HONAN: Lushih, Tang ho, alt. 1000 m., *J. Hers*, no. 960, October 11, 1919; Lushih, Lao kiun shan, alt. 2000 m., *J. Hers*, no. 1178, September 21, 1919 (both nos. sterile).

SHENSI: Lun san huo, *G. Giraldi*, no. 1073 (ex Focke, l. c.).

DISTRIBUTION: also Hupeh.

As the specimens from Honan consist of sterile shoots I am not sure if they belong here, though they agree well with corresponding material of this species.

Rubus pedunculosus D. Don, Prodr. Fl. Nepal. 234 (1825).

Rubus gracilis Roxburgh, Hort. Bengal. 39 (1814), nomen; Fl. Ind. ed. 2, ii. 519 (1832).—Focke in Bibl. Bot. lxxii. 190 (Spec. Rub.) (1911).

Rubus niveus Wallich mss. apud G. Don, Gen. Syst. ii. 530 (1832).—Non Thunberg.

Rubus euleucus Focke in Bot. Jahrb. xxix. 397 (1900); xxxvi. beibl. lxxxii. 54 (1905).

SHENSI: Lao y san, *G. Giraldi*, no. 5208 (ex Focke, l. c. [1905]).

DISTRIBUTION: also Hupeh, Szechuan; Himalayas.

Rubus coreanus Miquel in Ann. Mus. Lugd.-Bat. iii. 34 (1867); Prol. Fl. Jap. 222 (1867).—Focke in Bot. Jahrb. xxix. 400 (1900); xxxvi. beibl. lxxxii. 54 (1905).—Bailey, Gent. Herb. i. 30 (1920).

HONAN: Chi kung shan, *L. H. Bailey*, June 15, 1917 (Gray Herb.).

SHENSI: from several localities, *G. Giraldi*, nos. 1062, 1063, 5216, 5217 (ex Focke, l. c.).

DISTRIBUTION: also Hupeh, Kiangsi; Japan.

Rubus parvifolius Linnaeus, Spec. 1197 (1753), excl. synonym.—Maximowicz in Bull. Acad. Sci. St. Pétersb. xvii. 159 (1872); in Mém. Biol. viii. 392 (1872).—Debeaux in Act. Soc. Linn. Bordeaux, xxxi. 149 (Fl. Tché-foû, 54) (1876).—Franchet in Mém. Soc. Sci. Nat. Cherbourg, xxiv. 214 (1884).—Hemsley in Jour. Linn. Soc. xxiii. 235 (1887).—Faber in Denkschr. Entwickel. Kiautschou, 32 (1898).—Ito in Tokyo Bot. Mag. xiv. 129 (1900).—Gilg & Loesener in Bot. Jahrb. xxxiv. beibl. lxxv. 39 (1904).—Cowdry in Jour. N. China Branch R. As. Soc. liii. 164 (1922).

Rubus triphyllus Thunberg, Fl. Jap. 215 (1784).—Focke in Bot. Jahrb. xxix. 397 (1900); xxxvi. beibl. lxxxii. 55 (1905).—Hers in Jour. N. China Branch R. As. Soc. liii. 115 (1922); Liste Ess. Lign. Honan, 27 (1922).

Rubus purpureus Bunge in Mém. Div. Sav. Acad. Sci. St. Pétersb. ii. 98 (Enum. Pl. Chin. Bor. 24) (1833).—Maximowicz in Mém. Div. Sav. Acad. Sci. St. Pétersb. ix. 471 (Ind. Fl. Pekin.) (1859).—Bretschneider, Hist. Eur. Bot. Discov. China, 333 (1898).

Rubus triphyllus var. (subspec.?) *purpureus* Focke in Bibl. Bot. lxxii. 187 (Spec. Rub.) (1911).—Loesener in Bot. Centralbl. Beih. xxxvii. abt. ii. 133 (1919).

CHILI: Without precise locality, *Père Chanet*, no. 99, 1919.—See also Maximowicz, l. c. (1872), Hemsley, l. c., Cowdry, l. c., Bunge, l. c., Maximowicz, l. c. (1859), and Bretschneider, l. c.

SHANTUNG: Tsing tau, *R. Zimmermann*, no. 185, 1901 (Gray Herb.); Chifu, *Com. Wykeham Perry*, 1881-84 (Gray Herb.); among rocks on hills, *N. H. Cowdry*, no. 520, July, 1920.—See also Debeaux, l. c., Franchet, l. c., Faber, l. c., Ito, l. c., Gilg & Loesener, l. c., and Loesener, l. c.

HONAN: Hwei hsien, *Pai yun sze*, *J. Hers*, no. 787, June 15, 1919; Yung ning, *Tsi li ping*, *J. Hers*, no. 479, May 22, 1919; Yung ning, *She pa pan*, alt. 800 m., *J. Hers*, no. 845, October 7, 1919; Yung ning, *Chuan pao shan*, alt. 1500 m., *J. Hers*, no. 1108, October 17, 1919; Shan chow, *Tsai yuan*, alt. 500, *J. Hers*, no. 816, October 3, 1919; *Tsi yuan hsien*, *Tien tan shan*, *J. Hers*, nos. 1690, 1726, September 16 and 22, 1921; *Chung chow*, introduced from the hills, *J. Hers*, no. 2510, June 1, 1923.—See also *Hers*, l. c.

SHANSI: *Lien ma*, *F. N. Meyer*, no. 1706, July 19, 1914 (Herb. U. S. Dept. Agric.).

SHENSI: several localities, *G. Giraldi* (ex Focke, l. c. [1900 and 1905]).

DISTRIBUTION: from Manchuria, Korea and Japan to Kwangtung, Szechuan, Yunnan and the Himalayas.

Rubus Sweginzowianus Focke in *Bibl. Bot.* LXXII. 188 (Spec. Rub.) (1911).

? KANSU: ex Focke, l. c.

Cultivated by Max van Sievers, Roemershof, Livonia, and supposed to have been introduced from Kansu. See also note under *Rosa Sweginzowii* on p. 207.

Rubus adenochlamys Focke in *Bibl. Bot.* LXXII. 191 (Spec. Rub.) (1911).

Rubus triphyllus var. *adenochlamys* Focke in *Bot. Jahrb.* xxxvi. beibl. LXXXII. 55 (1905).

SHENSI: several localities, *G. Giraldi* (ex Focke, l. c.).

Rubus phoenicolasius Maximowicz in *Bull. Acad. Sci. St. Pétersb.* xvii. 160 (1872); *Mél. Biol.* viii. 393 (1872).—Hemsley in *Jour. Linn. Soc.* xxiii. 235 (1887).—Focke in *Bot. Jahrb.* xxix. 400 (1900); xxxvi. beibl. LXXXII. 55 (1905).—Loesener in *Bot. Centralbl. Beih.* xxxvii. abt. ii. 133 (1919).

SHANTUNG: *Lau shan*, *A. Engler*, no. 6988 (ex Loesener, l. c.).

HONAN: *Lushih*, *Hiung eul shan*, alt. 1400 m., *J. Hers*, no. 880, October 10, 1919 (sterile).

SHENSI: *Tai pei shan*, *W. Purdom*, no. 961, 1910.—See also Focke, l. c.

KANSU: south of *Hoang ho*, *P. J. Piasezki* (ex Hemsley, l. c.).

DISTRIBUTION: also Japan.

Rubus flosculosus Focke in *Hooker's Icon.* xx. in textu ad t. 1952, p. 3 (1891); in *Bot. Jahrb.* xxix. 401 (1900); xxxvi. beibl. LXXXII. 54 (1905).—*Hers* in *Jour. N. China Branch R. As. Soc.* liii. 115 (1922); *Liste Ess. Lign. Honan*, 27 (1922).

HONAN: *Hwei hsien*, Shansi border, *J. Hers*, no. 806, June 19, 1919:

Sung hsien, San kuan miao, alt. 1000 m., *J. Hers*, no. 1303, September 27, 1919.—See also *Hers*, l. c.

SHENSI: several localities, *G. Giraldi* (ex Focke, l. c.).

DISTRIBUTION: also Hupeh.

Rubus Giralidianus Focke in *Bot. Jahrb.* xxix. 401 (1900); in *Bibl. Bot.* LXXII. 195 (Spec. Rub.) (1911).

Rubus flosculosus f. *laxiflorus* Focke in Sargent, *Pl. Wilson.* I. 55 (1911).

SHENSI: Tue lian pin, *G. Giraldi*, no. 1070 (ex Focke, l. c.).

DISTRIBUTION: also Szechuan.

Rubus innominatus S. Moore in *Jour. Bot.* xiii. 226 (1875).—Focke in *Bot. Jahrb.* xxix. 400 (1900).

SHENSI: Lun shan huo, *G. Giraldi*, no. 1077 (ex Focke, l. c.).

DISTRIBUTION: also Kiangsi, Hupeh, Szechuan, Yunnan.

Rubus piluliferus Focke in *Bot. Jahrb.* xxxvi. beibl. LXXXII. 55 (1905); in *Bibl. Bot.* LXXII. 203 (Spec. Rub.) (1911).

SHENSI: Kin qua san, *G. Giraldi*, no. 5222 (ex Focke, l. c.).

Rubus lachnocarpus Focke in *Bot. Jahrb.* xxxvi. beibl. LXXXII. 56 (1905); in *Bibl. Bot.* LXXII. 204 (Spec. Rub.) (1911).

SHENSI: Ngo shan, *G. Giraldi*, no. 5215 (ex Focke, l. c.).

Rubus mesogaeus Focke in *Bot. Jahrb.* xxix. 399 (1900); xxxvi. beibl. LXXXII. 55 (1905).—*Hers* in *Jour. N. China Branch R. As. Soc.* LIII. 115 (1922); *Liste Ess. Lign. Honan*, 27 (1922).

HONAN: Teng feng, Yu tai shan, alt. about 800 m., *J. Hers*, no. 289, June 17, 1919; Yung ning, Tsi li ping, *J. Hers*, no. 480, May 22, 1919; Yung ning, Chuan pao shan, alt. 1500 m., *J. Hers*, no. 1112, October 17, 1919; Lushih, Hiung eul shan, alt. 1400 m., *J. Hers*, no. 897, October 10, 1919; Lushih, Kiao ho, alt. 1000 m., *J. Hers*, no. 975, October 13, 1919; Lushih, Lao kiun shan, alt. 2000 m., *J. Hers*, no. 1222, September 21, 1919; Sung hsien, Shih tze miao, alt. 1200 m., *J. Hers*, no. 1243, September 25, 1919; without precise locality, *J. Hers*, no. 125, 1919.—See also *Hers*, l. c.

SHENSI: Tai pei shan, *W. Purdom*, no. 963, 1910.—See also Focke, l. c.

DISTRIBUTION: also Hupeh, Szechuan, Yunnan.

Rubus mesogaeus var. *oxycomus* Focke in *Bot. Jahrb.* xxix. 399 (1900); xxxvi. beibl. LXXXII. 56 (1905).

SHENSI: Tue lian pin and Ki fon shan, *G. Giraldi*, nos. 1076 and 5219 (ex Focke, l. c.).

Rubus idaeus Linnaeus, *Spec.* 492 (1753).

CHILI: Hsiao Wu tai shan, alt. 1800–2600 m., *F. N. Meyer*, no. 1205, August 12, 1913; *J. Hers*, no. 1536, July 14, 1921; *N. H. Cowdry*, no. 1659, July 13, 1921; Hsiao Wu tai shan, Tieh ling sze, alt. 1300 m., *J. Hers*, no. 2121, October 7, 1922.

SHANSI: Wu chai hsien, Ta nan kow, alt. 2000–3000 m., *Tchuang Kieh*, Hers no. 2016, September 7, 1922.

DISTRIBUTION: also Europe, Northern Asia.

The specimens cited above do not seem to differ from typical *R. Idaeus*; of *R. idaeus* var. *strigosus* which occurs in Manchuria, Korea and Japan, I have seen no specimen from northern China and I have found no record except the following.

Rubus idaeus β. *strigosus* Maximowicz in Bull. Acad. Sci. St. Pétersb. xvii. 161 (1872); in Mém. Biol. viii. 394 (1872).—Palibin in Act. Hort. Petrop. xiv. 116 (1895).

CHILI: Weichang (ex Palibin, l. c.).

DISTRIBUTION: Manchuria, Korea, Japan; also in North America.

Rubus acuminatissimus Hasskarl ? var. *kansuensis* Kanitz in Szechenyi, Keletasz. Utján. Tudom. Ered. ii. 847 (Pl. Enum. 21) (1891); in Szechenyi, Wiss. Ergeb. Reise Ostas. ii. 697 (1898).

KANSU: "inter Wej-ho et Tsing-tchou," no. 155 (ex Kanitz, l. c.).

This plant referred by Kanitz to the Javanese *R. acuminatissimus* I am unable to place; it is not at all probable that a Kansu plant belongs to a Javanese species and therefore I cannot consider Kanitz's determination as correct. I have seen no specimen of *R. acuminatissimus* Hasskarl, but judging from the description I do not think it impossible that Kanitz had a specimen of *R. xanthocarpus* Bur. & Franch. before him.

There are three specimens collected by Hers, nos. 635, 1536 and 2714, the first with young flower-buds, the others sterile, which are too incomplete for determination.

Potentilla fruticosa Linnaeus, Spec. 495 (1753).—Franchet in Nouv. Arch. Mus. Paris, sér. 2, v. 262 (Pl. David. i. 110) (1883).—Hemsley in Jour. Linn. Soc. xxiii. 243 (1887).—Kanitz in Szechenyi, Keletasz. Utján. Tudom. Ered. ii. 809 (Pl. Enum. 21) (1891); in Szechenyi, Wiss. Ergeb. Reise Ostas. ii. 732 (1898).—Palibin in Act. Hort. Petrop. xiv. 117 (1895).—Pritzel in Bot. Jahrb. xxix. 402 (1900); xxxvi. beibl. lxxxii. 56 (1905).—Rehder & Wilson in Sargent, Pl. Wilson. ii. 301 (1915).—Limpricht, Bot. Reis. Hochgeb. Chin. Ost-Tib. 407 (1922).

CHILI: Weichang, *W. Purdom*, no. 127, 1909.—See also Franchet, l. c., Hemsley, l. c., Palibin, l. c., Rehder & Wilson, l. c., and Limpricht, l. c.

SHENSI: several localities, *G. Giraldi* (ex Pritzel, l. c.).

KANSU: ex Kanitz, l. c.

DISTRIBUTION: northern and central Asia, Europe, North America.

It is doubtful if typical *P. fruticosa* occurs in northern China. The only specimen cited above has the glabrate leaves of var. *davurica* but the shape of the outer sepals is too narrow and the color of the flowers is not recognizable with certainty.

The specimens enumerated under *P. fruticosa* by the authors quoted above are probably referable to different varieties.

Potentilla fruticosa var. *parvifolia* Wolf in Bibl. Bot. xvi. 58 (Monog. Potent.) (1908).—Rehder & Wilson in Sargent, Pl. Wilson. II. 304 (1915).

Potentilla fruticosa var. *ochreatea* Hooker f., Fl. Brit. Ind. II. 347 (1878).—Kanitz in Szechenyi, Keletasz. Utján. Tudom. Ered. II. 809 (Pl. Enum. 21) (1891); in Szechenyi, Wiss. Ergeb. Reise Ostas. II. 697 (1898).—Non Lehmann.

KANSU: Min chow and Choni districts, alt. 3000–3300 m., *W. Purdom*, no. 821, 1910 (plants raised from seeds sent under no. 821^{xxx} are growing at the Arnold Arboretum).—See also Rehder & Wilson, l. c., and Kanitz, l. c.

DISTRIBUTION: also Siberia, Central Asia and Himalayas.

Potentilla fruticosa var. *mandshurica* Maximowicz in Bull. Acad. Sci. St. Pétersb. XIX. 164 (1874); in Mém. Biol. VIII. 158 (1873).

Potentilla davurica var. *mandshurica* Wolf in Bibl. Bot. xvi. 61 (Monog. Potent.) (1908).—Limpricht, Bot. Reis. Hochgeb. Chin. Ost.-Tib. 407 (1922).

SHANSI: Da dung fu (ex Limpricht, l. c.).

DISTRIBUTION: also Szechuan; Manchuria.

Potentilla fruticosa var. *davurica* Lehmann, Monog. Potent. 32 (1820).

Potentilla davurica Nestler, Monog. Potent. 31, tab. 1 (1816).—Palibin in Act. Hort. Petrop. XIV. 117 (1895).—Farrer in Jour. Roy. Hort. Soc. XLII. 90 (1916).—Limpricht, Bot. Reis. Hochgeb. Chin. Ost.-Tib. 407 (1922).

Potentilla fruticosa var. *Veitchii* Rehder & Wilson in Sargent, Pl. Wilson. II. 303 (1915), pro parte, quoad plantas e China bor.—Non Bean.

CHILI: Hsiao Wu tai shan, alt. 3000 m., *F. N. Meyer*, no. 1176 (108), August 12, 1913; *J. Hers*, no. 1540, July 14, 1921.—See also Palibin, l. c., Limpricht, l. c., and Rehder & Wilson, l. c.

SHANSI: Da Wu tai shan (ex Limpricht, l. c.).

SHENSI: Tai pei shan, mountain slopes up to alt. 3300 m., *W. Purdom*, nos. 396, 396^a, 396^{xxx}, 1910.—See also Limpricht, l. c., and Rehder & Wilson, l. c.

KANSU: Valley of Tow River, alt. 3000–3300 m., *W. Purdom*, no. 819, 1910.—See also Rehder & Wilson, l. c., and Farrer, l. c.

DISTRIBUTION: also Hupeh, Szechuan, Yunnan; Transbaicalia, Manchuria.

This variety is very closely related to var. *Veitchii* (Wils.) Bean and seems gradually to pass into it by intermediate forms. Var. *davurica* is chiefly characterized by rather small glabrous or glabrate leaves dark green above, glaucescent beneath and without conspicuous lateral veins, by the broad and short outer sepals and the conspicuous tuft of white hairs at the end of the stipules, while var. *Veitchii* has larger leaves more or less furnished with long silky hairs on both sides, dull green above and lighter green and with rather prominent lateral veins beneath, the outer sepals usually about as long as the inner sepals, and it is generally a taller more vigorous plant.

Potentilla eriocarpa Wallich, Cat. Pl. Ind. Or. 28, no. 1012 (1828), nomen.—Hooker fil., Fl. Brit. Ind. II. 348 (1879).—Pritzel in Bot. Jahrb. XXIX. 403 (1900).

SHENSI: Tai pei shan, *G. Giraldi*, nos. 1003, 1683 (ex Pritzel, l. c.).
DISTRIBUTION: also Himalayas.

Rosa multiflora Thunberg, Fl. Jap. 214 (1784).—Hemsley in Jour. Linn. Soc. xxiii. 253 (1887), pro parte.—Ito in Tokyo Bot. Mag. xiv. 133 (1900).—Gilg in Bot. Jahrb. xxxiv. beibl. lxxv. 40 (1904).

Rosa multiflora var. *adenophora* Franchet in Mém. Soc. Sci. Nat. Cherbourg, xxiv. 216 (1884).—Non Franchet & Savatier.

Rosa multiflora Thunb. var. Dingler in Bot. Centralbl. Beih. xxxvii. abt. II. 135 (1919).

SHANTUNG: Chifu, ravines in hills, *N. H. Cowdry*, no. 576, July, 1920.—See also Hemsley, l. c., Gilg, l. c., Franchet, l. c., Ito, l. c., and Dingler, l. c.

Cowdry's specimen is in young fruit but as Gilg states that the flowers are white, the Shantung plant apparently represents typical *R. multiflora*.

Rosa multiflora Thunb. var. *cathayensis* Rehder & Wilson in Sargent, Pl. Wilson. II. 304 (1915).—F. N. Meyer in U. S. Dept. Agric. Bur. Pl. Indust. Invent. Seeds Pl. Imp. XL. 33, no. 38823 (1917).—Hers in Jour. N. China Branch R. As. Soc. LIII. 115 (1922); Liste Ess. Lign. Honan, 26 (1922).

Rosa multiflora Bunge in Mém. Div. Sav. Acad. Sci. St. Pétersb. II. 100 (Enum. Pl. Chin. Bor. 26)¹ (1833).—Hemsley in Jour. Linn. Soc. xxiii. 253 (1887), pro parte.—Crépin in Bull. Soc. Bot. Ital. 1897, 230.—Non Thunberg.

Rosa cathayensis Bailey, Gent. Herb. I. 29 (1920).

HONAN: Chang mao, *J. Hers*, no. 45, May 10, 1919; Sia shih, *J. Hers*, no. 343, May 25, 1921; Yung ning, Tsi li ping, *J. Hers*, nos. 451, 482, May 22, 1919; Yung ning, Yo tze ping, alt. 1000 m., *J. Hers*, no. 829, October 4, 1919; Lushih, Ta she ho, *J. Hers*, no. 998, October 13, 1919; Sung hsien, San kuan miao, alt. 1000 m., *J. Hers*, no. 1296, September 27, 1919; Tsi yuan hsien, Tien tan shan, *J. Hers*, no. 1740, September 21, 1921; Tsi yuan hsien, alt. 500 m., *J. Hers*, no. 2672, August 23, 1923; Chi kung shan, *L. H. Bailey*, June 14, 1917; Cheng chow, planted, *J. Hers*, no. 1979, August 22, 1922; from a plant introduced from the hills, *J. Hers*, nos. 2582, 2583, August 2, 1923.—See also Hers, l. c., and Bailey, l. c.

NORTHERN KIANGSU: without precise locality, *J. Hers*, no. 1038.

SHENSI: Tai pei shan, *W. Purdom*, no. 964, 1910.—See also Crépin, l. c., and F. N. Meyer, l. c.

KANSU: without precise locality, *W. Purdom*, no. 536 (seeds only; plants growing in the Arnold Arboretum).—See also Rehder & Wilson, l. c.

DISTRIBUTION: also Chekiang, Fokien, Kiangsi, Hunan, Hupeh, Szechuan, Yunnan.

Rosa multiflora var. *carnea* Thory in Redouté, Roses, II. 67, t. (1821).—Rehder & Wilson in Sargent, Pl. Wilson. II. 305 (1915).

Rosa sp. F. N. Meyer in U. S. Dept. Agric. Bur. Pl. Indust. Invent. Seeds Pl. Imp. xv. 58, no. 23035 (1909).

CHILI: Tientsin, *F. N. Meyer*, no. 697, April 3, 1908 (cuttings or seeds only; plants growing in Chico, Calif. [Herb. U. S. Dept. Agric.]).—See also *F. N. Meyer*, l. c.

HONAN: Cheng chow, cultivated, *J. Hers*, no. 2511, June 1, 1923.

DISTRIBUTION: also cultivated in other provinces of China.

Rosa multiflora var. *Praegeri* Dingler in Bot. Centralbl. Beih. xxxvii. abt. II. 135, tab. 6A (1919).

SHANTUNG: Litsun valley, *Praeger* (ex Dingler, l. c.).

According to the description it differs from var. *cathayensis* chiefly in its smaller broad and obtuse leaflets pubescent on both sides, in the white flowers and in its prostrate habit.

Rosa Rubus Léveillé & Vaniot in Bull. Soc. Bot. France, LV. 55 (1908).

Rosa moschata var. *micrantha* Crépin in Bull. Soc. Bot. Belg. xviii. 302 (Prim. Monog. Ros. 548) (1879); in Bull. Soc. Bot. Ital. 1897, 231.

SHENSI: Niu pei shan, alt. 700 m., *J. Hers*, no. 2456, October 11, 1922.—See also Crépin, l. c.

Hers' no. 2456 which is in ripe fruit differs from the typical form in its somewhat less pubescent and less coarsely serrate leaflets with the veins more prominent beneath.

Rosa moschata Miller, Dict. ed. 8, no. 13 (1768).—Dingler in Bot. Centralbl. Beih. xxxvii. abt. II. 135 (1919).

SHANTUNG: Litsun, alt. 300 m., *M. Du Bois-Raymond*, no. 203 (ex Dingler, l. c.).

The plant certainly does not belong to the true *R. moschata*, but may possibly be *R. Gentiliana* Léveillé & Vaniot, the type of which came from Kiangsu.

Rosa Maximowicziana Regel in Act. Hort. Petrop. v. 378 (1877).—Cowdry in Jour. N. China Branch R. As. Soc. LIII. 164 (Pl. Peitaiho) (1922).

CHILI: Pei tai ho, banks and rocks (ex Cowdry, l. c.).

DISTRIBUTION: also Manchuria, Korea.

Rosa Wichuraiana Crépin in Bull. Soc. Bot. Belg. xxv. 189 (1886).—Rehder & Wilson in Sargent, Pl. Wilson. II. 335 (1915).

Rosa Luciae var. *poterifolia* Franchet & Savatier, Enum. Pl. Jap. II. 345 (1879).—Crépin in Bull. Soc. Bot. Belg. xviii. 286 (Prim. Monog. Ros. 532) (1879).

SHANTUNG: Chifu, *H. Wawra* (ex Crépin, l. c. [1879]).

DISTRIBUTION: also Kwangtung, Kwangsi; Korea, Japan, Formosa.

Rosa microcarpa Lindley, Monog. Ros. 130, t. 18 (1820).—Crépin in Bull. Soc. Bot. Belg. xiv. 164 (Prim. Monog. Ros. 368) (1875).—Franchet in Nouv. Arch. Mus. Paris, sér. 2, v. 270 (Pl. David. I. 118) (1883).

? SHENSI: *A. David* (ex Crépin, l. c.).

DISTRIBUTION: Chekiang, Fokien, Kiangsi, Hupeh, Szechuan, Kweichow.

Crépin says that David's specimens he saw were without locality, but that they probably were collected in Shensi. Franchet (l. c.) states that he did not find the specimens referred to by Crépin in the collections of the Museum.

Rosa Banksiae Aiton, Hort. Kew. ed. 2, III. 258 (1811).—Dingler in Bot. Centralbl. Beih. XXXVII. abt. II. 135 (1919).—Hers in Jour. N. China Branch R. As. Soc. LIII. 115 (1922); Liste Ess. Lign. Honan, 26 (1922).

SHANTUNG: Tsimo, ? cultivated (ex Dingler, l. c.).

HONAN: cultivated (ex Hers, l. c.).

DISTRIBUTION: also cultivated in other provinces of China and in Japan.

Rosa Banksiae var. *normalis* Regel, Tent. Ros. Monog. 91 (1877); in Act. Hort. Petrop. v. 376 (1878).—F. N. Meyer in U. S. Dept. Agric. Bur. Pl. Indust. Invent. Seeds Pl. Imp. XLIII. 77, no. 40768 (1918).

Rosa Banksiae Crépin in Bull. Soc. Bot. Belg. XIV. 162 (Prim. Monog. Ros. 366) (1875); in Bull. Bot. Soc. Ital. 1897, 231.—Franchet in Nouv. Arch. Mus. Paris, sér. 2, v. 267 (Pl. David. I. 115) (1883).—Hemsley in Jour. Linn. Soc. XXIII. 248 (1887).—Farrer in Jour. Roy. Hort. Soc. XLII. 107 (1916).—Non Aiton.

SHENSI: *A. David* (ex Crépin, l. c. [1875], Franchet, l. c., and Hemsley, l. c.); several localities, *G. Giraldis* (ex Crépin, l. c. [1897]).

KANSU: near Cheng hsien, *F. N. Meyer*, no. 1960, September 30, 1914 (Herb. U. S. Dept. Agric.); Feng shan ling (ex Farrer, l. c.).

DISTRIBUTION: also Hupeh, Szechuan and Yunnan.

Rosa Roxburghii Tratt. f. *normalis* Rehder & Wilson in Sargent, Pl. Wilson. II. 319 (1915).

Rosa microphylla Crépin in Bull. Soc. Bot. Ital. 1897, 234.—Non Desfontaines, vix Roxburgh.

SHENSI: Ko lu pas, *G. Giraldis*, nos. 23, 27 (ex Crépin, l. c.).

DISTRIBUTION (including varieties): also Hupeh, Szechuan, Kweichow, Yunnan; Japan.

Rosa chinensis Jacquin, Obs. Bot. III. 7, t. 55 (1768).

Rosa indica Loureiro, Fl. Cochinch. 323 (1790).—Bunge in Mém. Div. Sav. Acad. Sci. St. Pétersb. II. 100 (Enum. Pl. Chin. Bor. 26) (1833).—Kanitz in Szechenyi, Keletasz. Utján. Tudom. Ered. II. 810 (Pl. Enum. 22) (1891); in Szechenyi, Wiss. Ergeb. Reise Ostas. II. 698 (1898).—Crépin in Bull. Soc. Bot. Ital. 1897, 231.—Ito in Tokyo Bot. Mag. XIV. 134 (1900).—Hers in Jour. N. China Branch R. As. Soc. LIII. 115 (1922); Liste Ess. Lign. Honan, 26 (1922).—Non Linnaeus.

CHILI: cultivated (ex Bunge, l. c.).

SHANTUNG: cultivated (ex Ito, l. c.).

HONAN: cultivated (ex Hers, l. c.).

SHENSI: cultivated (ex Crépin, l. c.).

KANSU: cultivated (ex Kanitz, l. c.).

DISTRIBUTION: also cultivated in other Chinese provinces; the spontaneous form with single flowers occurs in Szechuan and Hupeh.

Rosa rugosa Thunberg, Fl. Jap. 213 (1784).—Bunge in Mém. Div. Sav. Acad. Sci. St. Pétersb. II. 100 (Enum. Pl. Chin. Bor. 26) (1833).—Franchet in Mém. Soc. Sci. Nat. Cherbourg, xxiv. 214 (1884).—Hemsley in Jour. Linn. Soc. xxiii. 253 (1887).—Faber in Denkschr. Entwickel. Kiautschou, 32 (1898).—Ito in Tokyo Bot. Mag. xiv. 133 (1900).—Gilg in Bot. Jahrb. xxxiv. beibl. lxxv. 40 (1904).—Hers in Jour. N. China Branch R. As. Soc. LIII. 115 (1922); Liste Ess. Lign. Honan, 26 (1922).
Rosa rugosa *β. ferox* C. A. Meyer in Mém. Acad. Sci. St. Pétersb. sér. 6, vi. 32 (Ueber Zimmtros.) (1847).—Dingler in Bot. Centralbl. Beih. xxxvii. abt. II. 136 (1919).

Rosa rugosa *f. amurensis* Maximowicz apud Debeaux in Act. Soc. Linn. Bordeaux, xxxi. 152 (Fl. Tché-foû, 57) (1876).

CHILI: cultivated (ex Bunge, l. c., and Hemsley, l. c.).

SHANTUNG: Chifu, roadsides, *N. H. Cowdry*, no. 578, July 5, 1920 (sterile).—See also Franchet, l. c., Hemsley, l. c., Faber, l. c., Ito, l. c., Gilg, l. c., Dingler, l. c., and Debeaux, l. c.

HONAN: cultivated (ex Hers, l. c.).

DISTRIBUTION: also Manchuria, Kamchatka, Korea, Japan.

This Rose seems to occur spontaneously only in Shantung; the cultivated plants recorded from Chili and Honan probably belong to the double-flowered form of var. *Chamissoniana*.

Rosa rugosa var. *Chamissoniana* C. A. Meyer in Mém. Acad. Sci. St. Pétersb. sér. 6, vi. 34 (Ueber Zimmtros.) (1847).—Dingler in Bot. Centralbl. Beih. xxxvii. abt. II. 136 (1919).

SHANTUNG: Chifu, roadsides, *N. H. Cowdry*, no. 577, July, 1920 (sterile).—See also Dingler, l. c.

DISTRIBUTION: also Kamchatka.

Rosa rugosa var. *Chamissoniana* *f. rubro-plena*, comb. nov.

Rosa rugosa var. *floribus plenis* Franchet in Nouv. Arch. Mus. Paris, sér. 2, v. 268 (Pl. David. I. 116) (1883).

Rosa rugosa var. *Chamissoniana* Rehder & Wilson in Sargent, Pl. Wilson. II. 321 (1915).—Vix C. A. Meyer.

Rosa rugosa var. *rubro-plena* Rehder in Bailey, Stand. Cycl. Hort. v. 2992 (1916).

CHILI: Peking, cultivated (ex Franchet, l. c.).

DISTRIBUTION: cultivated and escaped from cultivation in Hupeh; also cultivated in other provinces of China; probably the cultivated plants enumerated under *R. rugosa* belong here.

Rosa davurica Pallas, Fl. Ross. I. pt. 2, 61 (1788).—Crépin in Bull. Soc. Bot. Belg. xiv. 33, 38 (Prim. Ros. Monog. 327, 332) (1875).—Franchet in Nouv. Arch. Mus. Paris, sér. 2, v. 268 (Pl. David. I. 116) (1883).—Hemsley in Jour. Linn. Soc. xxiii. 249 (1887).—Rehder & Wilson in Sargent, Pl. Wilson. II. 340 (1915).

CHILI: west of Weichang, *W. Purdom*, no. 107, 1910; near San tung ying, stony places, *F. N. Meyer*, no. 973, May 31, 1913; Hsiao Wu tai shan, *F. N. Meyer*, no. 1240 (105), August 20, 1913; *J. Hers*, no. 1503, July 14,

1921.—See also Crépin, l. c., Franchet, l. c., Hemsley, l. c., and Rehder & Wilson, l. c.

DISTRIBUTION: also Dahuria, Mongolia, Korea.

Rosa banksiopsis Baker in Willmott, Gen. Rosa, II. 503 (1914).—Rehder & Wilson in Sargent, Pl. Wilson. II. 322 (1915).—Hers in Jour. N. China Branch R. As. Soc. LIII. 115 (1922); Liste Ess. Lign. Honan, 26 (1922).

? *Rosa macrophylla* Crépin in Bull. Soc. Bot. Ital. 1897, 231; ? pro parte.—Non Lindley.

HONAN: Teng feng hsien, Yu tai shan, alt. 800 m., *J. Hers*, nos. 238, 238^{bis}, April 23, 1919, no. 2783, September 27, 1923.—See also Hers, l. c.

SHENSI: "Kin tan san," *G. Giraldis*, July 14, 1897; Moutan shan, northwest of Han cheng hsien, alt. 1500 m., *W. Purdom*, no. 366, May 29, 1910; valley leading to Tai pei shan, alt. 2300 m., *W. Purdom*, no. 424, July 1, 1910; Tai pei shan, *W. Purdom*, no. 1119, 1910.—See also Crépin, l. c., and Rehder & Wilson, l. c.

DISTRIBUTION: also Hupeh, Szechuan.

The specimens from the Yu tai shan, Honan, differ from typical *R. banksiopsis* in the suborbicular to broad-ovate leaflets not exceeding 1.5 cm. in length, in the few-flowered corymbs and in the very short pedicels, and resemble in these characters *R. Giraldis* Crép., but they have the large broad bracts, glabrous inflorescence and the texture and color of the leaves of *R. banksiopsis*. Purdom's no. 1119 is a peculiar apparently abnormal form with an extremely large and loose inflorescence measuring about 20 cm. in diameter.

Rosa Davidii Crépin in Bull. Soc. Bot. Belg. XIII. 253 (Prim. Ros. Monog. 260) (1874).

KANSU: Tsing shui hsien, Tsao chuan pu, alt. 1500 m., *J. Hers*, no. 2403, July 10, 1922.

DISTRIBUTION: also Szechuan.

The Kansu specimen resembles in the rather dense pubescence of the sepals, calyx-tube and pedicels Wilson's no. 3585 from Wa-shan, Szechuan.

Rosa acicularis Lindley, Monog. Ros. 44, t. 8 (1820).—Hemsley in Jour. Linn. Soc. XXIII. 248 (1887).

CHILI: Hsiao Wu tai shan, alt. 3000 m., *F. N. Meyer*, no. 1365, August 29, 1913 (Herb. U. S. Dept. Agric.).—See also Hemsley, l. c.

DISTRIBUTION: northern Europe and northern Asia to Korea; also North America.

Meyer's no. 1365 is the only specimen of this widely distributed and variable Rose I have seen from China; its stem and branchlets are densely bristly; the leaves are 5-foliate with the leaflets gland-dotted and glabrous beneath except scattered villose hairs on the midrib; the solitary subglobose to globose-ovoid fruits are borne on glabrous pedicels about 1 cm. long.

Rosa bella Rehder & Wilson in Sargent, Pl. Wilson. II. 341 (1915).

? *Rosa macrophylla* v. *hypoleuca* Franchet in Nouv. Arch. Mus. Paris, sér. 2, v. 267 (Pl. David. I. 115) (1883).

Rosa sp. F. N. Meyer in U. S. Dept. Agric. Invent. Seeds Pl. Imp. XXXVII. 75, no. 36857, 36858 (1916).

Rosa Sweginzowii Hers in Jour. N. China Branch R. As. Soc. LIII. 115 (1922); Liste Ess. Lign. Honan, 26 (1922).—Non Koehne.

CHILI: Po hua shan, *J. Hers*, nos. 1438, 1671, July 1 and September 9, 1921; alt. 1000–2000 m., *J. Hers*, no. 2233, October 12, 1922; Hsiao Wu tai shan, alt. 1600 m., *F. N. Meyer*, nos. 1239 and 1256, August 20 and 21, 1913; *J. Hers*, no. 1486, July 14, 1921; Hsiao Wu tai shan, Tieh ling sze, alt. 1300 m., *J. Hers*, nos. 2122, 2130, October 7, 1922; Kalgan, *N. H. Cowdry*, no. 1974, August 30, 1921; without precise locality, *Père Chagnet*, nos. 10, 38, 1918.—See also Franchet, l. c., and Meyer, l. c.

HONAN: Lushih, Lao kiun shan, alt. 2000 m., *J. Hers*, no. 1162, September 21, 1919; Lushih, Hiung eul shan, alt. 1400 m., *J. Hers*, no. 896, October 10, 1919; Tsi yuan hsien, Tien tan shan, *J. Hers*, no. 1812, September 21, 1921.—See also Hers, l. c.

SHANSI: Wu chai hsien, Ta nan kow, alt. 2000–3000 m., *Tchuang Kieh*, Hers no. 2001, September 7, 1922; Wu tai shan, alt. 1600 m., *J. Hers*, no. 2617, July 29, 1923; Nan fang shan, common between 2000 and 3000 m., flowers dark red, *J. Hers*, no. 2717, September 22–30, 1923.

SHENSI: Lung chow, Li kia po, alt. 1400 m., *J. Hers*, no. 2385, July 4, 1922.

This species seems to be the most common and most widely distributed Rose in northeastern China. Most specimens differ from the type in the pubescent midrib of the underside of the leaves, but otherwise they agree with it. The specimen from Shensi has the leaves densely grayish pubescent beneath and slightly pubescent above and represents probably a distinct form, if not a different species. In the short pedicels which like the calyx-tube are densely stipitate-glandular and glandular-setose, *R. bella* resembles *R. Sweginzowii* Koehne, but the leaves are simply serrate and the sepals entire. From *R. acicularis* Lindl. it differs in the smaller more numerous leaflets glaucescent beneath and in the short-pedicelled usually clustered flowers and the densely glandular-stipitate pedicel and calyx-tube; by the last named character it also differs from *R. Moyesii* Hemsl. & Wils. which besides has more numerous, more acute and rather finely serrate leaflets.

Rosa bella f. *pallens* Rehder & Wilson in Sargent, Pl. Wilson. II. 342 (1915).

This form with pale rose flowers was raised from the same seed as the type and probably occurs with the red-flowered type in other localities.

Rosa bella var. *mongolica*, comb. nov.

Rosa macrophylla v. *mongolica* Franchet in Nouv. Arch. Mus. Paris, sér. 2, 267 (Pl. David. I. 115) (1883).

Rosa macrophylla Hemsley in Jour. Linn. Soc. XXIII. 251 (1887), quoad specimen Davidii.—Non Lindley.

CHILI: Kalgan, on Mt. Gulick, *N. H. Cowdry*, no. 1843, July 7, 1921; Po hua shan ("Ipe hoa chan"), *A. David*, no. 2248 (ex Franchet, l. c.).

This Rose differs at the first glance strikingly from typical *R. bella* in its very small leaflets pubescent beneath and occasionally 11 in number, but in Meyer's no. 1239 from Hsiao Wu tai shan part of the leaves on one of the branches have the leaflets as small and pubescent beneath, though they are never more than 9-foliolate, and Cowdry's no. 1974 from Kalgan has also rather small leaflets 1-2 cm. long, Cowdry's no. 1843 agrees well with Franchet's description but the leaflets can hardly be called doubly serrate, though the teeth have occasionally on some leaves more often than on others a minute tooth on one side.

Rosa Sweginzowii Koehne in Fedde, Rep. Spec. Nov. VIII. 22 (1910).—Rehder & Wilson in Sargent, Pl. Wilson. II. 324 (1915).

SHENSI: Lung chow, Li kia po, alt. 1400 m., *J. Hers*, no. 2384, July 4, 1922.

KANSU: Min chow district, alt. 3000 m., *W. Purdom*, no. 1059, 1910; without precise locality, *W. Purdom*, no. 1143, 1910.—See also Rehder & Wilson, l. c.

DISTRIBUTION: also Szechuan.

The original description of this species was based on cultivated plants raised from seed supposed to have been collected in Kansu; the subsequent discovery of the plant in Kansu shows that this supposition was correct.

Rosa Biondii Crépin in Bull. Soc. Bot. Ital. 1897, 233.

SHENSI: "Gniu-ju," *G. Giralddi*, no. 47 (ex Crépin, l. c.).

KANSU: Min chow, alt. 2600 m., *W. Purdom*, no. 1144, 1910.

I refer Purdom's material with some doubt to *R. Biondii* of which I have seen no specimen; it agrees fairly well with Crépin's description although the bracts at the base of the pedicels are rather narrow, not "très dilatées" as described by Crépin, and the number of leaflets is 7 or 9, very rarely 5, not 5 or 7. In the narrow stipules it agrees with *R. Murielae* Rehder & Wilson, but that species has more numerous and smaller leaflets and an inflorescence of usually several flowers.

Possibly identical with one of the four preceding species and probably with *R. bella* is the undescribed *R. Przewalskii* Regel ined. apud Bretschneider (Hist. Eur. Bot. Discov. China, 975, 1053 [1898], nomen) collected by Przewalski in 1880 on the Djakhar Mountain, south of Kuitze, Kansu, and by Bretschneider on the Peking mountains. According to Bretschneider there is a note by Crépin on the label stating that it seems a form of *R. macrophylla* Lindl.

Rosa Giralddii Crépin in Bull. Soc. Bot. Ital. 1897, 232.—Rehder & Wilson in Sargent, Pl. Wilson. II. 328 (1915).

SHENSI: "Monte Kan-y-san ad ovest del Lao-y-san," *G. Giralddi*, June 11-12, 1897.—See also Crépin, l. c., and Rehder & Wilson, l. c.

DISTRIBUTION (including varieties): also Hupeh, Szechuan.

Rosa Prattii Hemsley in Jour. Linn. Soc. xxix. 307, fig. 30 (1892).

SHENSI: Tai pei shan, *W. Purdom*, no. 1124, 1910.

DISTRIBUTION: also Szechuan.

The Shensi specimen differs from the typical form in its very bristly calyx and pedicels, in the rather more dilated stipules and the solitary flowers.

Rosa Hugonis Hemsley in Bot. Mag. cxxxi. t. 8004 (1905).—Rehder & Wilson in Sargent, Pl. Wilson. II. 330 (1915).

Rosa xanthina Crépín in Bull. Soc. Bot. Ital. 1897, 223; synonym. exclud.—Non Lindley.

SHENSI: various localities, *G. Giraldi* (ex Crépín, l. c.).—See also Hemsley, l. c.

DISTRIBUTION: also Szechuan.

I have seen none of Giraldi's specimens, but a cultivated plant (in Herb. Zabel) raised from seed collected by Giraldi is undoubtedly *R. Hugonis* which probably extends north as far as the southern slope of the Tsin ling shan. In the absence of vigorous shoots showing the presence of bristles it is often very difficult to distinguish *R. Hugonis* from *R. xanthina* and one has to depend on the generally more sharply serrate and more numerous leaflets glabrous or nearly so even when young, and on the more slender-pedicelled paler colored flowers of *R. Hugonis*.

Rosa xanthina Lindley, Monog. Ros. 132 (1820).—Hemsley in Jour. Linn. Soc. xxiii. 254 (1887).—Bretschneider, Hist. Eur. Bot. Discov. China, 861 (1898).—? F. N. Meyer in U. S. Dept. Agric. Bur. Pl. Indust. Invent. Seeds Pl. Imp. xiii. 170, no. 21620 (1908).—Rehder & Wilson in Sargent, Pl. Wilson. II. 342 (1915).—Hers in Jour. N. China Branch R. As. Soc. LIII. 115 (1922); Liste Ess. Lign. Honan, 26 (1922).

Rosa pimpinellifolia Bunge in Mém. Div. Sav. Acad. Sci. St. Pétersb. II. 100 (Enum. Pl. Chin. Bor. 26) (1833).—Maximowicz in Mém. Div. Sav. Acad. Sci. St. Pétersb. IX. 471 (Ind. Fl. Pekin.) (1859).—Hemsley in Jour. Linn. Soc. xxiii. 253 (1887).—Bretschneider, Hist. Eur. Bot. Discov. China, 333 (1898).—Non Linnaeus.

Rosa sp. F. N. Meyer in U. S. Dept. Agric. Bur. Pl. Indust. Invent. Seeds Pl. Imp. XII. 37, no. 17469 (1907).

Rosa xanthinoides Nakai in Tokyo Bot. Mag. xxxii. 218 (1918); in Fl. Sylv. Kor. VII. 33, t. 6 (1918).

CHILI: Peking, in gardens, *F. N. Meyer*, nos. 67 and 68, 1906 (only cuttings or plants sent and grown by the Department of Agriculture).—See also Meyer, l. c. (1907), Bunge, l. c., Maximowicz, l. c., and Hemsley, l. c.

SHANTUNG: Shushan, *F. N. Meyer*, no. 745^a, August 23, 1907 (seeds only, plants with semi-double flowers raised from the seed and growing at the Arnold Arboretum).—See also Meyer, l. c. (1908) and Rehder & Wilson, l. c.

HONAN: cultivated (ex Hers, l. c.).

DISTRIBUTION: also cultivated in Korea.

As this is the only double-flowered yellow Rose we know from northern China, there can hardly be any doubt that it represents Lindley's *R. xanthina* based on a Chinese drawing and very briefly described. The plant referred to by Bunge as *R. pimpinellifolia* and stated to be represented by a cultivated variety "floribus majusculis sulphureis" is probably the double-flowered form and not the single-flowered wild form.

***Rosa xanthina* f. *spontanea* Rehder, nom. nov.**

Rosa xanthina Franchet in Nouv. Arch. Mus. Paris, sér. 2, v. 269, t. 15, fig. 2 (Pl. David. I. 117) (1883).—F. N. Meyer in U. S. Dept. Agric. Bur. Pl. Indust. Invent. Seeds Pl. Imp. XIII. 170, no. 21620 (1908).—Dingler in Bot. Centralbl. Beih. xxxvii. abt. II. 136 (1919).—Vix Lindley.

Rosa eglanteria Graebner in Bot. Jahrb. xxxiv. beibl. lxxv. 40 (1904).—Non Linnaeus.

Rosa xanthina f. *normalis* Rehder & Wilson in Sargent, Pl. Wilson. II. 342 (1915); quoad syn. Franchetii.—Hers in Jour. N. China Branch R. As. Soc. LIII. 115 (1922); Liste Ess. Lign. Honan, 26 (1922).

Rosa sp. F. N. Meyer in U. S. Dept. Agric. Bur. Pl. Indust. Invent. Seeds Pl. Imp. XL. 33, no. 38821 (1917).

CHILI: Kalgan, mountain side near Jen tou shan, *N. H. Cowdry*, no. 1498, July 2, 1921.

SHANTUNG: Tsing tau and Tsang kou (ex Graebner, l. c., and Dingler, l. c.); Shu shan (ex Meyer, l. c.).

HONAN: Chang mao, alt. 600 m., *J. Hers*, nos. 43, 44, May 10, 1919; Sia shih, *J. Hers*, no. 336, April 24, 1921.—See also Hers, l. c.

SHANSI: Fen chow, *J. Hers*, no. 1906, April 20, 1922; Wu chai hsien, Ta nan kow, alt. 2000-3000 m., *Tchuan Kieh*, Hers no. 2048, September 7, 1922; Nan yang shan, alt. 1000-2500 m., *J. Hers*, no. 2716, September 22-30, 1923.

SHENSI: Yenan fu, *W. Purdom*, no. 339, 1910; Ta hua shan, *F. N. Meyer*, no. 2094^a, December 29, 1913 (seeds only; plants growing at Bell, Maryland; in herb. U. S. Dept. Agric.).

The specimens cited above represent apparently the spontaneous form of the double-flowered *R. xanthina*; they agree with the specimens of the double-flowered form in shape and serration and in the pubescence of the leaflets which are usually villose beneath at least when young and glandless, rarely quite glabrous. In *Plantae Wilsonianae* (l. c.) this spontaneous form is confused with *R. Ecae* which has narrower leaflets, obtusely and more or less doubly serrate from near the base and glandular-dotted beneath but otherwise glabrous.

The plant growing near Shu shan, Shantung, is according to Meyer's note the wild single-flowered form, but the cultivated plants supposed to have been introduced by Meyer from that locality have semi-double flowers. Hers' no. 336 from Sia shih, Honan, is remarkable for its very pubescent leaves, the leaflets being densely long-villose beneath, sparingly so above and the petioles are also covered with long villose hairs. In most plants the pubescence nearly disappears at maturity or it may be even entirely absent as in Hers' no. 2048 and 2716 from Shansi and in Cowdry's no. 1498 from Chili.

Rosa Ecae Aitchison in Jour. Linn. Soc. XVIII. 54 (1880); XIX. 162, t. 8 (1882).—Kanitz in Szechenyi, Keletasz. Utján. Tudom. Ered. II. 810 (Pl. Enum. 22) (1891); in Szechenyi, Wiss. Ergeb. Reise Ostas. II. 698 (1898).

Rosa xanthina f. *normalis* Rehder & Wilson in Sargent, Pl. Wilson. II. 342 (1915), *synon. exceptis*.

Rosa Sweginzowii F. N. Meyer in U. S. Dept. Agric. Bur. Pl. Indust. Invent. Seeds Pl. Imp. XLIII. 68, no. 40699 (1918).—Non Koehne.

HONAN: Hwei hsien, Shansi border, *J. Hers*, no. 709, June 19, 1919.

SHANSI: near Tsin tse, *F. N. Meyer*, no. 414, May, 1907; near Hsi po po, *F. N. Meyer*, no. 1700, July 10, 1914; Fen chow, *J. Hers*, no. 1905, April 20, 1922.

KANSU: San sze miao, *F. N. Meyer*, no. 2000, December 1, 1914 (leafless shoot with extremely broad-based spines; in Herb. U. S. Dept. Agric.); "ad monasterium Altin" (ex Kanitz, l. c.).—See also Meyer, l. c.

DISTRIBUTION: also Central Asia.

It is remarkable that this Central Asiatic species should range as far east as Shansi and Honan, but I am unable to find any character to distinguish the specimens cited above from those collected in Turkestan. From the two other yellow-flowered species of northern China *R. Ecae* is easily distinguished by the glandular dots on the under side of the leaflets and their doubly serrate glandular margin.

Rosa tsinlingensis Pax & K. Hoffmann in Limpricht, Bot. Reis. Hochgeb. Chin. Ost.-Tib. 414 (1922).

SHENSI: Tsin ling shan, southeast slope of Tai pei shan (ex Pax & K. Hoffmann, l. c.).

This species is said to be related to *R. graciliflora* Rehd. & Wils. and seems to differ according to the description chiefly in its mostly 13-foliolate leaves with reticulate leaflets and in the smaller white flowers.

Rosa omeiensis Rolfe in Bot. Mag. CXXXVIII. t. 8471 (1912).—Rehder & Wilson in Sargent, Pl. Wilson. II. 331 (1915).

Rosa sericea Crépin in Bull. Soc. Bot. Belg. XIV. 151, 155 (Prim. Monog. Ros. 355, 359) (1875); in Bull. Soc. Bot. Ital. 1897, 234.—Non Lindley.

SHENSI: Kian san, *G. Giraldis*, August 4, 1897; Kin tou san, *G. Giraldis*, July 11, 1897; Tai pei shan, *W. Purdom*, nos. 969, 970, 970^a, 1123, 1910; southeastern slope of Tai pei shan, alt. 2600–3000 m., *W. Purdom*, no. 430, July 5, 1910.—See also Rehder & Wilson, l. c., and Crépin, l. c. (1897).

KANSU: Min chow, alt. 2600–3000 m., *W. Purdom*, nos. 1055, 1056, 1126, 1910.—See also Rehder & Wilson, l. c., and Crépin, l. c. (1875).

DISTRIBUTION: also Hupeh, Szechuan, Yunnan.

Prunus salicina Lindley in Trans. Hort. Soc. VII. 239 (1830).—Koehne in Sargent, Pl. Wilson. I. 580 (1913).—Bailey, Gent. Herb. I. 29 (1920).—Hers in Jour. N. China Branch R. As. Soc. LIII. 113 (1922); Liste Ess. Lign. Honan, 22 (1922).

Prunus triflora Roxburgh, Hort. Bengal. 38 (1814), nomen nudum; Fl. Ind. ed. 2, II. 501 (1832), sphalmate "*trifolia*."—Koehne in Sargent, Pl. Wilson. I. 276 (1912).

Prunus ? *domestica* Bunge in Mém. Div. Sav. Acad. Sci. St. Pétersb. II. 96 (Enum. Pl. Chin. Bor. 22) (1833).—Bretschneider in Jour. N. China Branch R. As. Soc. n. ser. xv. 149 (Early Eur. Res. China) (1880).—Non Linnaeus.

Prunus communis Maximowicz in Bull. Acad. Sci. St. Pétersb. XXIX. 89 (1883); in Mém. Biol. XI. 678 (1883).—Hemsley in Jour. Linn. Soc. XXIII. 218 (1887).—Faber in Denkschr. Entwickel. Kiautschou, 32 (1898).—Ito in Tokyo Bot. Mag. XIV. 135 (1900).—Pritzel in Bot. Jahrb. XXIX. 407 (1900).—Gilg in Bot. Jahrb. XXXIV. beibl. LXXV. 41 (1904).—Non Hudson.

CHILI: Hsiao Wu tai shan, *J. Hers*, nos. 1506, 1575, July 14 and 16, 1921; also cultivated (ex Bunge, l. c., Bretschneider, l. c., and Maximowicz, l. c.).—See also Hemsley, l. c.

SHANTUNG: ? cultivated (ex Faber, l. c., Ito, l. c., and Gilg, l. c.).

HONAN: Yung ning, Tsi li ping, alt. 1000 m., *J. Hers*, no. 478, May 22, and nos. 1336 and 1361, September 30, 1919; Lushih, Tang ho, alt. 1000 m., *J. Hers*, no. 950, October 11, 1919; Lao kiun shan, alt. 900 m., *J. Hers*, no. 1230, September 23, 1919; Chi kung shan, *L. H. Bailey*, June 18, 1917.—See also Bailey, l. c., and Hers, l. c.

SHANSI: Hia hsien, Huang lai kow, *J. Hers*, nos. 1841 and 1842, October 2, 1921; Wu tai shan, alt. 1600 m., *J. Hers*, no. 2637, July 31, 1923.

SHENSI: Lung chow, Kuan shan, alt. 2000 m., *J. Hers*, no. 2360, July 3, 1922.—See also Pritzel, l. c.

DISTRIBUTION: also Hupeh, Hunan, Szechuan, Yunnan; much cultivated in China and also in Japan, Korea and the Himalayas.

The specimen from Shensi which is sterile has remarkably small and narrow leaves about 4–5 cm. long and 1–1.8 cm. wide, but apparently belongs to *P. salicina*.

Prunus Simonii Carrière in Rev. Hort. 1872, 111, t.—Bretschneider, Hist. Eur. Bot. Discov. China, 829 (1898).

Persica Simonii Decaisne, Jard. Fruit. VII. 43 (1872–1875).

Prunus Persica γ. *necturina* Maximowicz in Bull. Acad. Sci. St. Pétersb. XXIX. 83 (1883); in Mém. Biol. XI. 669 (1883), pro parte, quoad synonym. *Prunus Simonii* et *Persica Simonii*.

CHILI: cultivated near Peking (ex Bretschneider, l. c.).

Of this I have seen only cultivated plants originally introduced by G. E. Simon from China to France. According to Bretschneider the plant figured by Carrière seems to be the same as the one cultivated under the name "hung li."

Prunus mume Siebold & Zuccarini, Fl. Jap. I. 29, t. 11 (1836).—Bailey, Gent. Herb. I. 28 (1920).—Hers in Jour. N. China Branch R. As. Soc. LIII. 113 (1922); Liste Ess. Lign. Honan, 22 (1922).—Cowdry in Jour. N. China Branch R. As. Soc. LIII. 163 (1922).

CHILI: Pau shan, hillsides, *N. H. Cowdry*, no. 2164, May, 1921; Pei tai ho, Lotus hill (ex Cowdry, l. c.).

NORTHERN KIANGSU: Hsiao hsien, Huang tsang yu, *J. Hers*, no. 1046, May 26, 1919.

HONAN: Chi kung shan (ex Bailey, l. c.); without locality (ex Hers, l. c.).

DISTRIBUTION (including varieties): also Hupeh, Szechuan, Chekiang, Kwangtung; Formosa, Japan.

As the specimens cited above are in leaf only, their identification remains open to doubt. Maximowicz (in Bull. Acad. Sci. St. Pétersb. xxix. 84; in Mém. Biol. xi. 672 [1883]) mentions a double-flowered form sent by Bretschneider from Peking where it is cultivated.

Prunus Armeniaca Linnaeus, Spec. 474 (1753).—Bunge in Mém. Div. Sav. Acad. Sci. St. Pétersb. ii. 96 (Enum. Pl. Chin. Bor. 22) (1833).—Maximowicz in Bull. Acad. Sci. St. Pétersb. xxix. 86 (1883); in Mém. Biol. xi. 674 (1883).—Debeaux in Act. Soc. Linn. Bordeaux xxxiii. 41 (Fl. Tien-tsin, 18) (1879).—Franchet in Nouv. Arch. Mus. Paris, sér. 2, v. 256 (Pl. David. i. 103) (1883).—Hemsley in Jour. Linn. Soc. xxiii. 217 (1887).—Bretschneider, Hist. Eur. Bot. Discov. China, 1052 (1898).—Faber in Denkschr. Entwickel. Kiautschou, 32 (1898).—Pritzel in Bot. Jahrb. xxix. 407 (1900).—Gilg in Bot. Jahrb. xxxiv. beibl. Lxxv. 41 (1904).—Koehne in Sargent, Pl. Wilson. i. 278 (1912).—Bailey, Gent. Herb. i. 28 (1920).—Hers in Jour. N. China Branch R. As. Soc. liii. 113 (1922); Liste Ess. Lign. Honan, 22 (1922).

Armeniaca Davidiana Carrière in Rev. Hort. 1879, 236, fig. 46-48.—Bretschneider, Hist. Eur. Bot. Discov. China, 860 (1898).

CHILI: Hsiao Wu tai shan, *F. N. Meyer*, nos. 1238, 1255 and 1361, August 20, 21, and 29, 1913.—See also Bunge, l. c., Maximowicz, l. c., Debeaux, l. c., Hemsley, l. c., Bretschneider, l. c., and Koehne, l. c.

SHANTUNG: cultivated (ex Faber, l. c., and Gilg, l. c.).

HONAN: Hwei hsien, Pai yun sze, *J. Hers*, no. 793, June 15, 1919; Chuan pao shan, alt. 1500 m., *J. Hers*, no. 1106, October 17, 1919.—See also Bailey, l. c., and Hers, l. c.

SHANSI: Huai lai hsien, Liu shu chwang, alt. 800 m., *J. Hers*, no. 2077, October 3, 1922.

SHENSI: Tsin ling shan (ex Pritzel, l. c.); cultivated (ex Franchet, l. c.).

DISTRIBUTION: also Manchuria; cultivated in other Chinese provinces.

Prunus Armeniaca var. *ansu* Maximowicz in Bull. Acad. Sci. St. Pétersb. xxix. 87 (1883); in Mém. Biol. xi. 676 (1883).—Ito in Tokyo Bot. Mag. xiv. 134 (1900) "*Anzu*."—Koehne in Sargent, Pl. Wilson. i. 282 (1912).—Bailey, Gent. Herb. i. 28 (1920).

SHANTUNG: cultivated (ex Ito, l. c., and Koehne, l. c.).

NORTHERN KIANGSU: Liu lin shan, near Hai chow, *J. Hers*, no. 601, May 5, 1921.

DISTRIBUTION: also Korea; cultivated in Japan.

A supposed hybrid between *Prunus Armeniaca* and *P. salicina* is mentioned under the name "Plumcot" by F. N. Meyer (in U. S. Dept. Agr. Bur. Pl. Indust. Bull. cciv. 22 [Agric. Explor. Orch. China] [1911]). He states that it is called "Lishing" by the Chinese and that about three varieties of it are grown in the Shantung province.

***Prunus sibirica* Linnaeus, Spec. 474 (1753).**

Prunus Armeniaca var. *sibirica* K. Koch, Dendr. i. 88 (1869).—Maximowicz in Bull. Acad. Sci. St. Pétersb. xxix. 86 (1883); in Mém. Biol. xi. 673 (1883).

CHILI: near Ku hei kow, *N. H. Cowdry*, no. 1291, May 13, 1921; Siwan tze near Kalgan, *Père Artselaer* (ex Maximowicz, l. c.).

SHANSI: "Shara hoda," *N. Przewalski* (ex Maximowicz, l. c.).

DISTRIBUTION: also Dahuria and Mongolia.

There is also a specimen collected by W. Purdom (no. 1145) without locality which apparently belongs here.

***Prunus kansuensis* Rehder in Jour. Arnold Arb. iii. 21 (1922).**

Amygdalus sp. *F. N. Meyer* in U. S. Dept. Agric. Bur. Pl. Indust. Invent. Seeds Pl. Imp. xlii. 50, nos. 40001 and 40004 (1918).

SHENSI: Sian fu, *F. N. Meyer*, no. 2139^a, August 30, 1914 (seeds only; plants raised from this seed cultivated in Chico, California).—See also Rehder, l. c., and Meyer, l. c.

KANSU: Kagoba, south of Hsiku, *F. N. Meyer*, no. 2141^a, October 3, 1914 (seeds only; plants raised from this seed cultivated at Chico, Calif.).—See also Rehder, l. c., and Meyer, l. c.

***Prunus Persica* Batsch, Beytr. Entw. Gesch. Naturr. 29 (1801), ex Junger in Bot. Zeit. xxxvi. 426.—Franchet in Nouv. Arch. Mus. Paris, sér. 2, v. 255 (Pl. David. i. 103) (1883).—Faber in Denkschr. Entwickel. Kiautschou, 32 (1898).—Bretschneider, Hist. Eur. Bot. Discov. China, 1051 (1898).—Ito in Tokyo Bot. Mag. xiv. 134 (1900).—Gilg in Bot. Jahrb. xxxiv. beibl. lxxv. 41 (1904).—Loesener in Bot. Centralbl. Beih. xxxvii. abt. ii. 135 (1919).—Bailey, Gent. Herb. i. 28 (1920).—Hers in Jour. N. China Branch R. As. Soc. liii. 113 (1922); Liste Ess. Lign. Honan, 22 (1922).**

Amygdalus Persica Linnaeus, Spec. 472 (1753).—Bunge in Mém. Div. Sav. Acad. Sci. St. Pétersb. ii. 96 (Enum. Pl. Chin. Bor. 22) (1833).—Meyer in U. S. Dept. Agric. Bur. Pl. Indust. Bull. cciv. 16 (Agric. Explor. Orch. China) (1911).

Persica vulgaris Miller, Gard. Dict. ed. 8 (1768).—Maximowicz in Mém. Div. Sav. Acad. Sci. St. Pétersb. ix. 471 (Ind. Fl. Pekin.) (1859).—Debeaux in Act. Soc. Linn. Bordeaux, xxxiii. 41 (Fl. Tien-tsin, 18) (1879).

Prunus Persica β. *vulgaris* Maximowicz in Bull. Acad. Sci. St. Pétersb. xxix. 82 (1883); in Mém. Biol. xi. 668 (1883).

CHILI: "China bor.;" ex Herb. Bunge (Gray Herb.); Hsiao Wu tai shan, *J. Hers*, no. 1574, July 16, 1921; cultivated at Peking and elsewhere (ex Bunge, l. c., Franchet, l. c., Bretschneider, l. c., Maximowicz, l. c. [1859], Debeaux, l. c., and Meyer, l. c.).

SHANTUNG: cultivated (ex Faber, l. c., Ito, l. c., Gilg, l. c., Loesener, l. c., and Meyer, l. c.).

NORTHERN KIANGSU: Hai chow hills, *Kang Fu Lai*, *Hers* no. 2271, October 8, 1922.

HONAN: cultivated, Cheng chow, *J. Hers*, nos. 1980, 1981, 1982, 1984, August 22, 1922.—See also Bailey, l. c., and Hers, l. c.

SHENSI: cultivated (ex Franchet, l. c., and Meyer, l. c.).

DISTRIBUTION: also cultivated in other provinces of China and often escaped and naturalized.

Though it is not known with certainty that the Peach occurs spontaneously anywhere in China, it seems highly probable that the northern provinces of China are the native country of *P. Persica* as is also the opinion of Laufer (*Sino-Iranica*, 539 [1919]). As is the case with other long and extensively cultivated fruit trees, it is usually impossible to make sure if plants found growing spontaneously are really native or only escaped and naturalized. Mr. Wilson found the Peach growing spontaneously in many places in central China remote from present-day settlements, but he tells me that he never felt sure that they were native as there was always the possibility that they were naturalized from old wiped out settlements.

Prunus Persica* f. *duplex (Weston) Rehder in Jour. Arnold Arb. III. 24 (1922).

Amygdalus Persica β. *multiplex* Bunge in Mém. Div. Sav. Acad. Sci. St. Pétersb. II. 96 (Enum. Pl. Chin. Bor. 22) (1833).

CHILI: cultivated at Peking (ex Bunge, l. c.).

Another double-flowered form has white flowers (*P. Persica* f. *alboplena* Schneider, Ill. Handb. Laubholz. I. 594 [1906]); a specimen (no. 1983), though in leaf only, was sent by J. Hers from Cheng chow, Honan.

Prunus communis Arcangeli, Comp. Fl. Ital. 209 (1882).

Amygdalus communis Linnaeus, Spec. 676 (1753).—? Debeaux in Act. Soc. Linn. Bordeaux, XXXIII. 41 (Fl. Tien-tsin, 18) (1879).—? Bretschneider in Jour. N. China Branch R. As. Soc. n. ser. xv. 149 (Early Eur. Research. China) (1880).

? **CHILI:** cultivated (ex Debeaux, l. c.).

Debeaux is apparently mistaken when he states that the Almond is cultivated in Chili. I have seen no specimens of this species from China and none of the other botanists record it. Bretschneider (l. c.) states that Dr. Hance wrote him that he never heard of the Almond tree having been observed in China, and that the *Amygdalus communis* of Bunge is *P. Davidiana*, a statement I have been able to verify, as there is a flowering specimen of Bunge's *Amygdalus communis* in the Gray Herbarium. Also Meyer (in U. S. Dept. Agr. Bur. Pl. Indust. Bull. ccrv. 21 [1911]) says that he never saw a single true Almond tree in China and that kernels sold as almonds in Chili and Shantung are those of *P. Armeniaca*. Laufer (*Sino-Iranica*, 405-409) adduces sufficient evidence to show that the Almond was introduced from Persia and is not a native of China.

Prunus Davidiana Franchet in Nouv. Arch. Mus. Paris, sér. 2, v. 255 (Pl. David. I. 103) (1883).—Bretschneider, Hist. Eur. Bot. Discov. China, 860 (1898).—Koehne in Sargent, Pl. Wilson. I. 275 (1912).—Hers in Jour. N. China Branch R. As. Soc. LIII. 113 (1922); Liste Ess. Lign. Honan, 22 (1922).

Amygdalus communis Bunge in Mém. Div. Sav. Acad. Sci. St. Pétersb. II. 95 (Enum. Pl. Chin. Bor. 21) (1833).—Non Linnaeus.

Persica Davidiana Carrière in Rev. Hort. 1872, 74, fig. 10.—Bretschneider, Hist. Eur. Bot. Discov. China, 332, 860 (1898).

Prunus Persica α. *Davidiana* Maximowicz in Bull. Acad. Sci. St. Pétersb. XXIX. 81 (1883); in Mém. Biol. XI. 667 (1883).

CHILI: "Chin. bor.;" ex Herb. Bunge (Gray Herb.); Hsiao Wu tai shan, Shui shih tao, alt. 1500 m., *J. Hers*, no. 2180, October 8, 1922; Po hua shan, *J. Hers*, no. 1658, September 9, 1921; Peking, used as stock in Peking nurseries, *C. S. Sargent*, September 19, 1903; Peking, German cemetery, planted, *F. N. Meyer*, no. 1396, May 24, 1914.—See also Franchet, l. c., Bretschneider, l. c., and Maximowicz, l. c.

HONAN: Sung hsien, Shih tze miao, alt. 1200 m., *J. Hers*, no. 588, May 26, 1919; Hwei hsien, Shansi border, *J. Hers*, no. 760, June 19, 1919.—See also Hers, l. c.

SHANSI: near Hsi po po, *F. N. Meyer*, no. 1873, July 10, 1914; Nan yang shan, alt. 1500–2000 m., *J. Hers*, no. 2741, September 22–30, 1923.

SHENSI: Yen an fu, *W. Purdom*, no. 347, 1910.—See also Maximowicz, l. c., and Koehne, l. c.

KANSU: *P. J. Piasezki* (ex Maximowicz, l. c.).

DISTRIBUTION: also Kweichow, Yunnan (ex Koehne, l. c.).

Prunus Davidiana f. *alba* Bean in Garden, L. 165, fig. (1896).

Persica Davidiana alba Carrière in Rev. Hort. 1872, 76.

CHILI: cultivated at Peking (ex Bretschneider, Hist. Eur. Bot. Discov. China, 860 [1898]).

Prunus Davidiana var. *Potanini*, comb. nov.

Prunus Persica var. *Potanini* Batalin in Act. Hort. Petrop. XII. 164 (1892).—Bretschneider, Hist. Eur. Bot. Discov. China, 1027 (1898).—Koehne in Sargent, Pl. Wilson. I. 275 (1912).—*F. N. Meyer* in U. S. Dept. Agric. Bur. Pl. Indust. Pl. Immigr. CVI. 858, no. 39899, pl. (1915).

Amygdalus Persica Potanini Ricker in U. S. Dept. Agric. Bur. Pl. Indust. Invent. Seeds Pl. Imp. XLII. 34, no. 39899 and p. 51, nos. 40007–40009, pl. (1918).

KANSU: near Schu tsai tze, *F. N. Meyer*, no. 1987, October 29, 1915.—See also Batalin, l. c., Koehne, l. c., Meyer, l. c., and Ricker, l. c.

Besides the specimen cited above I have seen flowering specimens from trees cultivated at Chico, California, and raised from seed sent by Meyer; these and the fruits sent by Meyer show that the plant is a variety of *P. Davidiana* and not of *P. Persica*.

Prunus tangutica Koehne in Sargent, Pl. Wilson. I. 276 (1912).

Amygdalus communis var. *tangutica* Batalin in Act. Hort. Petrop. XII. 163 (1892).

Amygdalus tangutica Korshinsky in Bull. Acad. Sci. St. Pétersb. sér. 5, XIV. 94 (1901).—*F. N. Meyer* in U. S. Dept. Agric. Bur. Pl. Indust. Pl. Immigr. CVI. 854, no. 39898, pl. (1915); in U. S. Dept. Agric. Bur. Pl. Indust. Invent. Seeds Pl. Imp. XLII. 51, nos. 40010, 40011 (1918).

KANSU: Min chow, alt. 2600–3000 m., *W. Purdom*, no. 1029, 1910.—See also Koehne, l. c., Batalin, l. c., Korshinsky, l. c., and Meyer, l. c.

The related *P. mongolica* Maxim. discovered on the Urato Mountains, which are close to the northeastern border of Shansi, will possibly be found also in northern Chili, Shansi or Shensi.

Prunus pilosa Maximowicz in Bull. Acad. Sci. St. Pétersb. xxix. 79 (1883); in Mém. Biol. xi. 664 (1883).

Amygdalus pilosa Turczaninov in Bull. Soc. Nat. Moscou, v. 189 (1832).—Bretschneider, Hist. Eur. Bot. Discov. China, 344 (1898).

CHILI: Tsagan Baggassu (ex Turczaninov, l. c., and Maximowicz, l. c.); Si wan tze (ex Maximowicz, l. c.).

SHANSI: "Shara hoda" Mountains (ex Maximowicz, l. c.).

Prunus triloba Lindley in Gard. Chron. 1857, 268.—Maximowicz in Bull. Soc. Nat. Moscou, liv. 15 (1879); in Bull. Acad. Sci. St. Pétersb. xxix. 79 (1883); in Mém. Biol. xi. 665 (1883).—Franchet in Nouv. Arch. Mus. Paris, sér. 2, v. 256 (Pl. David. i. 104) (1883); in Mém. Soc. Sci. Nat. Cherbourg, xxiv. 214 (1884).—Hemsley in Jour. Linn. Soc. xxiii. 222 (1887).—Palibin in Act. Hort. Petrop. xiv. 116 (1895).—Bretschneider, Hist. Eur. Bot. Discov. China, 1052 (1898).—Koehne in Sargent, Pl. Wilson. i. 274 (1912).—Cowdry in Jour. N. China Branch R. As. Soc. liii. 164 (Pl. Peitaiho) (1922).

Amygdalus pedunculata Bunge in Mém. Div. Sav. Acad. Sci. St. Pétersb. ii. 96 (Enum. Pl. Chin. Bor.) (1833).—Maximowicz in Mém. Div. Sav. Acad. Sci. St. Pétersb. ix. 471 (Ind. Fl. Pekin.) (1859).—Bretschneider, Hist. Eur. Bot. Discov. China, 332 (1898).—Non Pallas.

Of this plant there exists a double-flowered form which unfortunately is the type of the species; this makes it desirable to give varietal names to both forms, as technically the binomial should stand for the double-flowered form, while practically almost all botanists use the binomial for the spontaneous form, and without a definite varietal name it is impossible to know which form is meant.

Prunus triloba f. *multiplex*, comb. nov.

Amygdalus pedunculata f. *multiplex* Bunge in Mém. Div. Sav. Acad. Sci. St. Pétersb. ii. 96 (Enum. Pl. Chin. Bor. 22) (1833).

Amygdalus pedunculata γ. *polygyna* Bunge, l. c.

Prunus triloba var. *plena* Dippel, Handb. Laubholz. iii. 608 (1893).—Koehne in Sargent, Pl. Wilson. i. 274 (1912).

CHILI: Peking, garden of German Legation, *F. N. Meyer*, no. 1393, April 19, 1914; without locality, *W. Purdom*, no. 284, 1909 (seeds only; plants raised from this seed are growing in this Arboretum).—See also Bunge, l. c., Maximowicz, l. c., and Koehne, l. c.

SHANSI: Tai pei shan, *G. Giraldi*, no. 1137, April, 1895 (ex Koehne, l. c.).

Maximowicz refers Bunge's *Amygdalus pedunculata* γ. *polygyna* to *P. Petzoldii* (= *P. triloba* var. *Petzoldii*) but the flowers I have seen of the latter plant were not polygynous, while in f. *multiplex* they are occasionally so.

Prunus triloba f. *simplex*, comb. nov.

Amygdalus pedunculata α. *simplex* Bunge in Mém. Div. Sav. Acad. Sci. St. Pétersb. ii. 96 (Enum. Pl. Chin. Bor. 22) (1833).

Prunus triloba Stapf in Bot. Mag. cxxxii. t. 8061 (1906).

Prunus triloba f. *normalis* Rehder in Jour. Arnold Arb. iii. 30 (1922).

CHILI: Hsiao Wu tai shan, alt. 1600–2000 m., *F. N. Meyer*, no. 1055, August, 1913; Po hua shan, *J. Hers*, nos. 1463 and 1659, July 1, 1921 and September 9, 1921 and no. 2239, October 12, 1922, and nos. 1508, 1530, and 1565, July 14 and 16, 1921; Shi wen, loess cliffs, *F. N. Meyer*, nos. 1075, 1108, August 3, 1913.—See also Bunge, l. c., Maximowicz, l. c., Franchet, l. c. (1883), Hemsley, l. c., Palibin, l. c., Koehne, l. c., and Cowdry, l. c.

SHANTUNG: (ex Franchet, l. c. [1884], Hemsley, l. c., and Koehne, l. c.).

SHANSI: Wu tai shan, alt. 1300 m., *J. Hers*, no. 2609, July 29, 1923.

KANSU: Hung li hsien, *J. Hers*, no. 2418, August 2, 1922 (sterile).

Prunus triloba var. *Petzoldii* Bailey, Stand. Cycl. Hort. v. 2831 (1916).

Prunus Petzoldii K. Koch, Dendr. i. 92 (1869).—Maximowicz in Bull. Acad. Sci. St. Pétersb. xxix. 80 (1883); in Mém. Biol. xi. 665 (1883).—Koehne in Sargent, Pl. Wilson. i. 274 (1912).

CHILI: ex Maximowicz, l. c., and Koehne, l. c.

Prunus tomentosa Thunberg, Fl. Jap. 203 (1784).—Maximowicz in Bull. Soc. Nat. Moscou, liv. 10 (1879); in Bull. Acad. Sci. St. Pétersb. xxix. 95 (1883); in Mém. Biol. xi. 687 (1883).—Franchet in Nouv. Arch. Mus. Paris, sér. 2, v. 257 (Pl. David. i. 105) (1883).—Hemsley in Jour. Linn. Soc. xxiii. 222 (1887).—Bretschneider, Hist. Eur. Bot. Discov. China, 1052 (1898).—Diels in Bot. Jahrb. xxxvi. beibl. lxxxii. 57 (1905).—Koehne in Sargent, Pl. Wilson. i. 268 (1912).—Bailey, Gent. Herb. i. 29 (1920).—Loesener in Bot. Centralbl. Beih. xxxvii. abt. ii. 137 (1919).—Hers in Jour. N. China Branch R. As. Soc. liii. 114 (1922); Liste Ess. Lign. Honan, 23 (1922).—Cowdry in Jour. N. China Branch R. As. Soc. liii. 163 (1922).—Darrow in Jour. Hered. xv. 169, 6 figs. (1924).

Prunus triloba Hers in Jour. N. China Branch R. As. Soc. liii. 114 (1922); Liste Ess. Lign. Honan, 23 (1922).—Non Lindley.

CHILI: Peking, *O. Warburg*, no. 6615.—See also Bunge, l. c., Maximowicz, l. c., Franchet, l. c., Hemsley, l. c., and Cowdry, l. c.

SHANTUNG: Cape Ya tau (ex Loesener, l. c.).

NORTHERN KIANGSU: Liu lin shan, near Hai chow, *J. Hers*, no. 607, May 5, 1921; Hsiao hsien, Huang tsang yu, *J. Hers*, no. 1041, May 26, 1919.

HONAN: Teng feng hsien, Yu tai shan, alt. 800 m., *J. Hers*, no. 236, April 23, 1920, no. 318, April 20, 1920; Lushih, Kiao ho, alt. 1000 m., *J. Hers*, no. 967, October 13, 1919; Yung ning, Tsi li ping, *J. Hers*, no. 425, May 22, 1919; Sung hsien, Shih tze miao, alt. 1200 m., *J. Hers*, no. 1269, September 25, 1919.—See also Hers, l. c.

SHANSI: Yuan kiu hsien, Ni shan, *J. Hers*, no. 1825, September 28, 1921; Wen yu ho valley, alt. 1200 m., *J. Hers*, no. 2762, October 2, 1923; Wu chai hsien, Ta nan kow, alt. 2000–3000 m., *Tchuang Kieh*, Hers' no. 2038, September 7, 1922.

SHENSI: Kan y san, *G. Giraldi*, June 11–12, 1897; Kin ten san, *G. Giraldi*, July 14, 1897; Lung chow, Sien fo shan, alt. 1000 m., *J. Hers*, no. 2327, July 2, 1922.—See also Diels, l. c., and Koehne, l. c.

KANSU: Min chow, *W. Purdom*, no. 1028, 1910.—See also Maximowicz, l. c., and Hemsley, l. c.

DISTRIBUTION (including varieties): also Yunnan; Himalayas, Manchuria, Korea, Japan.

In typical *P. tomentosa* the branchlets at least when young and the under side of the leaves are densely pubescent, but in Hers no. 425 from Yung ning and no. 1269 from Sung hsien, Honan, the branchlets are quite glabrous and the leaves are only slightly and sparingly villose on the midrib and the veins beneath, but in all other characters the specimens agree perfectly with *P. tomentosa* of which it apparently represents a glabrescent form. These specimens were originally identified as *P. triloba* and on the strength of it the species was credited to Honan in Hers' List of Honan ligneous plants. Also Hers' no. 318 from Yu tai shan, which is in flower, seems to belong to this glabrescent form. The species is cultivated for its fruit near Peking (see Bretschneider, l. c., and Darrow, l. c.).

Prunus tomentosa var. *endotricha* Koehne in Sargent, Pl. Wilson. i. 225 (1912).

SHENSI: several localities, *G. Giraldi* (ex Koehne, l. c.).

DISTRIBUTION: also Hupeh, Szechuan.

Prunus tomentosa var. *breviflora* Koehne in Sargent, Pl. Wilson. i. 270 (1912).

SHENSI: Quan tou shan, *G. Giraldi*, no. 5295, May 5, 1898 (ex Koehne).

Prunus tomentosa var. *trichocarpa* Koehne in Sargent, Pl. Wilson. i. 270 (1912).

Prunus trichocarpa Bunge in Mém. Div. Sav. Acad. Sci. St. Pétersb. ii. 96 (Enum. Pl. Chin. Bor. 22) (1833).—Maximowicz in Mém. Div. Sav. Acad. Sci. St. Pétersb. ix. 471 (Ind. Fl. Pekin.) (1859).—Bretschneider, Hist. Eur. Bot. Discov. China, 332 (1898).

CHILI: A. Bunge (ex Koehne, l. c.).

Prunus tomentosa var. *tsuluensis* Koehne in Sargent, Pl. Wilson. i. 270 (1912).

SHENSI: Tsu lu, *G. Giraldi*, no. 5295, May 4, 1897 (ex Koehne).

Koehne cites under this variety and under var. *breviflora* the same number which is apparently a mistake; localities and dates are different.

Prunus dictyoneura Diels in Bot. Jahrb. xxxvi. beibl. lxxxii. 57 (1905).—Koehne in Sargent, Pl. Wilson. i. 262 (1912).

Prunus humilis β. *villosula* Bunge in Mém. Div. Sav. Acad. Sci. St. Pétersb. ii. 97 (Enum. Pl. Chin. Bor. 23) (1833).

CHILI: Peking, *O. Warburg*, no. 6607 (flowers); Ssi-jui-ssy (ex Bunge, l. c.).

HONAN: Teng feng, Yu tai shan, *J. Hers*, no. 307, June 17, 1919; Sia shi, *J. Hers*, no. 346, May 25, 1921; Mung ning, Tsi li ping, *J. Hers*, no. 476, May 22, 1919; Yu tai shan, *J. Hers*, no. 320, April 20, 1920 (flowers).

SHANSI: Yuan kiu hsien, Ni shan, *J. Hers*, no. 1818, September, 28, 1921.

SHENSI: Tai pei shan, *W. Purdom*, no. 2, 1910; Yen-an fu, *W. Purdom*, no. 344, 1910 ("Flowers light pink").—See also Diels, l. c., and Koehne, l. c.

Prunus humilis Bunge in Mém. Div. Sav. Acad. Sci. St. Pétersb. II. 97 (Enum. Pl. Chin. Bor. 23) (1833).—Turczaninov in Bull. Soc. Nat. Moscou, x. no. VII. 151 (1837).—Maximowicz in Mém. Div. Sav. Acad. Sci. St. Pétersb. IX. 471 (Ind. Fl. Pekin.) (1859); in Bull. Soc. Nat. Moscou, LIV. 11 (1879); in Bull. Acad. Sci. St. Pétersb. XXIX. 92 (1883); in Mém. Biol. XI. 682 (1883).—Hance in Jour. Bot. XIII. 132 (1875).—Bretschneider in Jour. N. China Branch R. As. Soc. n. ser. xv. 31 (Early Eur. Res. China) (1880); Hist. Eur. Bot. Discov. China, 20, 332, 830, 1053 (1898).—Franchet in Nouv. Arch. Mus. Paris, sér. 2, v. 256 (Pl. David. I. 104) (1883); in Mém. Soc. Sci. Nat. Cherbourg, XXIV. 214 (1884).—Hemsley in Jour. Linn. Soc. XXIII. 218 (1887).—Faber in Denkschr. Entwickel. Kiautschou, 32 (1898).—Gilg in Bot. Jahrb. XXXIV. beibl. LXXV. 40 (1904).—Koehne in Sargent, Pl. Wilson. I. 262 (1912); in Bot. Centralbl. Beih. XXXVII. abt. II. 136 (1919).—Limpricht, Bot. Reis. Hochgeb. Chin. Ost.-Tib. 415 (1920).—Hers in Jour. N. China Branch R. As. Soc. LIII. 113 (1922); Liste Ess. Lign. Honan, 22 (1922).—Cowdry in Jour. N. China Branch R. As. Soc. LIII. 163 (Pl. Peitaiho) (1922).

Prunus Bungei Walpers, Rep. II. 9 (1843).—Debeaux in Act. Soc. Linn. Bordeaux, XXXI. 52 (Fl. Tien-tsin) (1876).

Prunus glandulosa var. *Purdomii* Koehne in Sargent, Pl. Wilson. I. 264 (1912).

CHILI: Weichang, *W. Purdom*, no. 12, 1910; San tung ying, *F. N. Meyer*, no. 951, May 28, 1913; Tung ling, in park, *N. E. Cowdry*, no. 1293, May 18, 1921; near Nan kow, *F. N. Meyer*, no. 1039, July 28, 1913; Peking, *C. A. Skatchkov* (Gray Herb.); Ming Tombs, near Peking, *J. G. Jack*, October 6, 1905; western hills, Peking, *J. Hers*, no. 1586, August 7, 1921; near Hsiao Wu tai shan, *F. N. Meyer*, no. 1103, August 4, 1913; Hsiao Wu tai shan, *J. Hers*, no. 1527, July 14, 1921.—See also Bunge, l. c., Maximowicz, l. c., Hance, l. c., Bretschneider, l. c., Franchet, l. c. (1883), Hemsley, l. c., Koehne, l. c. (1912), Limpricht, l. c., and Cowdry, l. c.

SHANTUNG: Chifu (ex Maximowicz, l. c. [1883], Hemsley, l. c., and Debeaux, l. c.); Tsing tau (ex Faber, l. c., Gilg, l. c., and Koehne, l. c. [1919]).

HONAN: (ex Hers, l. c.).

I am unable to separate from *P. humilis*, which agrees in the shape and in the conspicuous reticulation of the leaves, Koehne's *P. glandulosa* var. *Purdomii* of which I have before me besides Purdom's flowering specimen, specimens with flowers and leaves from a cultivated plant determined by Koehne himself as var. *Purdomii*.

From Shantung and from Honan I have seen no specimens and it is possible that these references belong to *P. glandulosa* to which I refer the only specimen of this group I have seen from Shantung.

¹ Walpers changed Bunge's name to *P. Bungei* on account of *Cerasus humilis* Morison of 1827, but the combination under *Prunus* was not made until 1834 by Colla, one year after the publication of *Prunus humilis* Bunge.

Prunus glandulosa Thunberg, Fl. Jap. 202 (1784).—Koehne in Bot. Centralbl. Beih. xxxvii. abt. II. 136 (1919).—Bailey, Gent. Herb. I. 28 (1920).

Prunus japonica var. *glandulosa* Ito in Tokyo Bot. Mag. xiv. 136 (1900).
Prunus japonica β. *P. glandulosa* Maximowicz in Bull. Soc. Nat. Moscou, LIV. 13 (1879).

SHANTUNG: Chifu, low shrub on hills, *N. H. Cowdry*, no. 2163, July 3, 1920; "Kleines Perlgebirge (Hsiautshushan)" ex Koehne.

HONAN: cultivated plant introduced from the Sung shan, *J. Hers*, no. 198, April 20, 1921; Chi kung shan (ex Bailey, l. c.).

DISTRIBUTION: also Chekiang, Hupeh; Manchuria, Japan.

Prunus glandulosa var. *trichostyla* f. *sinensis* Koehne in Sargent, Pl. Wilson. I. 265 (1912).

Prunus japonica var. γ. Maximowicz in Bull. Soc. Nat. Moscou, LIV. 14 (1879), pro parte; in Bull. Acad. Sci. St. Pétersb. xxix. 95 (1883); in Mém. Biol. XI. 686 (1883).

Prunus japonica Pritzel in Bot. Jahrb. xxix. 407 (1900), quoad plantam e Shensi.—Non Thunberg.

SHENSI: cultivated (ex Koehne, l. c., Maximowicz, l. c., and Pritzel, l. c.).

DISTRIBUTION: cultivated in other provinces of China and in Japan.

Prunus glandulosa var. *trichostyla* f. *Faberi* Koehne in Sargent, Pl. Wilson. I. 224 (1912).

SHANTUNG: Tien tai and Chifu Mountains, *E. Faber* (ex Koehne, l. c.).

DISTRIBUTION: also Hupeh.

Prunus japonica Thunberg, Fl. Jap. 201 (1784).—Gilg in Bot. Jahrb. xxxiv. beibl. LXXV. 41 (1904).—Koehne in Bot. Centralbl. Beih. xxxvii. abt. II. 136 (1919).

Prunus japonica var. *typica* Ito in Tokyo Bot. Mag. xiv. 135 (1900).

SHANTUNG: Lau shan and Cape Ya tau (ex Gilg, l. c., and Koehne, l. c.); island Liu kung, cultivated (ex Ito, l. c.).

DISTRIBUTION (including the varieties): also Kiangsu, Chekiang, Fokien; Manchuria, Korea, Japan.

Prunus stipulacea Maximowicz in Bull. Acad. Sci. St. Pétersb. xxix. 97 (1883); in Mém. Biol. XI. 689 (1883).—Bretschneider, Hist. Eur. Bot. Discov. China, 975 (1898).—Koehne in Sargent, Pl. Wilson. I. 258 (1912).

KANSU: Tangut Region, *N. Przewalski* (ex Maximowicz, l. c., and Koehne, l. c.).

Prunus Giraladiana Schneider in Fedde, Rep. Nov. Spec. I. 65 (1905).—Koehne in Sargent, Pl. Wilson. I. 257 (1912).

SHENSI: Quen tou shan, *G. Giraldis*, no. 3789 (ex Schneider, l. c., and Koehne, l. c.).

Prunus phyllopora Koehne in Sargent, Pl. Wilson. I. 257 (1912).

? *Prunus* aff. *pauciflora* Diels in Bot. Jahrb. xxxvi. beibl. LXXXII. 57 (1905).

SHENSI: Ken y shan, *G. Giraldis* (ex Koehne, l. c., and Diels, l. c.).

Prunus setulosa Batalin in Act. Hort. Petrop. xii. 165 (1892); in Gartenfl. XLII. 330 (1892).—Bretschneider, Hist. Eur. Bot. Discov. China, 1027 (1898).—Koehne in Sargent, Pl. Wilson. i. 257 (1912).

KANSU: Minchow, alt. 2600 m., *W. Purdom*, no. 1030, 1910.—See also Batalin, l. c., and Koehne, l. c.

Prunus pseudocerasus Lindley in Trans. Hort. Soc. Lond. vi. 90 (1826).—Bretschneider, Hist. Eur. Bot. Discov. China, 1052 (1898).—Koehne in Fedde, Rep. Spec. Nov. xi. 270 (1912).—Hers in Jour. N. China Branch R. As. Soc. LIII. 113 (1922); Liste Ess. Lign. Honan, 22 (1922).

Prunus pauciflora Bunge in Mém. Div. Sav. Acad. Sci. St. Pétersb. II. 97 (Enum. Pl. Chin. Bor. 23) (1833).—Maximowicz in Mém. Div. Sav. Acad. Sci. St. Pétersb. ix. 471 (Ind. Fl. Pekin.) (1859); in Bull. Acad. Sci. St. Pétersb. xxix. 100 (1883); in Mém. Biol. xi. 694 (1883).—Hemsley in Jour. Linn. Soc. xxiii. 220 (1887).—Bretschneider, Hist. Eur. Bot. Discov. China, 332, 1052 (1898).—Ito in Tokyo Bot. Mag. xiv. 136 (1900).—Koehne in Sargent, Pl. Wilson. i. 252 (1912); in Bot. Centralbl. Beih. xxxvii. abt. II. 136 (1919).

? *Cerasus* spec. Maximowicz in Mém. Div. Sav. Acad. Sci. St. Pétersb. ix. 471 (Ind. Fl. Pekin.) (1859).

Prunus Cerasus Debeaux in Act. Soc. Linn. Bordeaux, xxxiii. 42 (Fl. Tientsin, 19) (1897).—Faber in Denkschr. Entwickel. Kiautschou, 32 (1898).—Ito in Tokyo Bot. Mag. xiv. 136 (1900).—Gilg in Bot. Jahrb. xxxiv. beibl. LXXV. 41 (1904).—Non Linnaeus.

Prunus pendula Gilg in Bot. Jahrb. xxxiv. beibl. LXXV. 41 (1904).—Non Maximowicz.

CHILI: Ying tou ko, *F. N. Meyer*, no. 1171, September 12, 1912.—See also Bretschneider, l. c., Bunge, l. c., Maximowicz, l. c., Hemsley, l. c., Koehne, in Sargent, l. c. (1912), and Debeaux, l. c.

SHANTUNG: near Chifu (ex Ito, l. c.); near Tsingtau (ex Koehne, l. c. [1919]), Faber, l. c., and Gilg, l. c.

NORTHERN KIANGSU: Liu lin shan, near Hai chow, *J. Hers*, no. 665, May 5, 1920.

HONAN: Cheng chow, cultivated on the Honan plain, *J. Hers*, no. 86, April 20, 1920; Sung hsien, Shih tze miao, *J. Hers*, nos. 107, 148, October 3, 1919 and no. 1282, September 25, 1919; Sung hsien, San kuan miao, alt. 1200 m., *J. Hers*, no. 502, May 24, 1919; Huang ho region, *J. Hers*, no. 1125, October, 1919.—See also Hers, l. c.

DISTRIBUTION: cultivated also in Hupeh and in other provinces of China and in Japan.

This is the only species of the true Cherries cultivated in China for its fruit. It is probably native on the mountains of Chili and Honan and elsewhere it occurs only as a cultivated tree. Meyer's no. 1171 differs from the other specimens in the leaves being pilose on the veins beneath and short-pilose above when young, but the greater development of pubescence may be due to the fact that the specimen consists of a vigorous shoot.

Prunus Sieboldii Wittmack in Gartenfl. LI. 272 (1902).

Prunus Pseudo-Cerasus var. *Sieboldii* Maximowicz in Bull. Acad. Sci. St. Pétersb. xxix. 102 (1883); in Mém. Biol. xi. 697 (1883).—Ito in Tokyo Bot. Mag. xiv. 137 (1900).

SHANTUNG: cultivated (ex Ito, l. c.).

DISTRIBUTION: also cultivated in Japan.

Prunus serrulata var. *pubescens* Wilson, Cherries Japan, 31 (1916).—Hers in Jour. N. China Branch R. As. Soc. LIII. 133 (1922); Liste Ess. Lign. Honan, 23 (1922).

Prunus tenuiflora of *Nebelii* Koehne in Bot. Centralbl. xxxvii. abt. II. 136, t. 6^B (1919).

SHANTUNG: Laushan, *O. Nebel* (ex Koehne, l. c.).

NORTHERN KIANGSU: Liu lin shan, near Hai chow, *J. Hers*, no. 666, May 5, 1921; Hai chow hills, alt. about 200 m., *Kang Fu Lai*, *Hers* nos. 2307, 2317, October 8, 1922.

HONAN: (ex *Hers*, l. c.).

SHENSI: Lung chow, Li kia po, alt. 1400 m., *J. Hers*, no. 2383, July 4, 1922.

DISTRIBUTION: also Hupeh; Korea, Japan.

Prunus pilosiuscula Koehne in Sargent, Pl. Wilson. I. 202 (1912).

HONAN: Tsi yuan hsien, Tien tan shan, *J. Hers*, nos. 1775, 1793, 1813 and 1891, September 21, 1921; Fu niu shan, *J. Hers*, no. 141, October 6, 1918; Sung hsien, Shih tze miao, alt. 1200 m., *J. Hers*, nos. 1242 and 1256, September 25, 1919; Yung ning, Tsi li ping, alt. 1000 m., *J. Hers*, no. 1349, September 30, 1919; Lu shih, Tang ho, alt. 1000 m., *J. Hers*, no. 949, October 11, 1919.

The specimens cited above, though they are all sterile, agree well in the characters of the leaves, stipules and branchlets with *P. pilosiuscula*, so that I do not hesitate to refer them to that species even without flowers. They apparently belong to the form distinguished as var. *barbata* Koehne (l. c.) which differs from typical *P. pilosiuscula* named var. *media* by Koehne in the leaves of the flowering branches, being glabrous beneath except axillary tufts of hairs. On vigorous shoots, however, the leaves are often densely pubescent beneath and oblong-ovate with gradually acuminate apex, quite different in shape from the generally obovate abruptly acuminate leaves of the flowering branches, but plants of this species cultivated at this Arboretum show that this is the usual form of vigorous shoots; the tendency toward pubescence on the under side of the leaves is noticeable even in some of the co-types of var. *barbata* which have the upper leaves of the elongated branchlets more or less pubescent beneath.

Prunus Padus Linnaeus, Spec. 473 (1753).—Maximowicz in Mém. Div. Sav. Acad. Sci. St. Pétersb. ix. 471 (Ind. Fl. Pekin.) (1859); in Bull. Acad. Sci. St. Pétersb. xxix. 108 (1883); in Mém. Biol. xi. 705 (1883).—Franchet in Nouv. Arch. Mus. Paris, sér. 2, v. 258 (Pl. David. I. 106) (1883).—Hemsley in Jour. Linn. Soc. xxiii. 220 (1887).—Diels in Bot. Jahrb. xxxvi. beibl. lxxxii. 57 (1905).—Koehne in Sargent, Pl. Wilson. I. 72 (1911).

CHILI: Weichang, *W. Purdom*, no. 14, May 24, 1909; Hsiao Wu tai shan, *F. N. Meyer*, no. 1170, August 12, 1913 (*Gray Herb.*); *J. Hers*, nos. 1513 and 1551, July 14, 1921.—See also Maximowicz, l. c., Franchet, l. c., Hemsley, l. c., and Koehne, l. c.

SHENSI: Huan tou shan, *G. Giraldis*, no. 7167 (ex Diels, l. c.).

DISTRIBUTION: also Mongolia, Siberia and Europe.

Prunus Padus var. *pubescens* Regel & Tiling in *Nouv. Mém. Soc. Nat. Moscou*, xi. 79 (*Fl. Ajan.*) (1858).—Maximowicz in *Bull. Acad. Sci. St. Pétersb.* xxix. 108 (1883); in *Mél. Biol.* xi. 706 (1883).

CHILI: Po hua shan, *J. Hers*, nos. 1401 and 1420, May 1, 1921.—See also Maximowicz, l. c.

SHANSI: Wu chai hsien, Ta nan kow, alt. 2000–3000 m., *Tchuan Kieh*, *Hers* nos. 2029 and 2034, September 7, 1922.

KANSU: Min chow, alt. 2600 m., *W. Purdom*, no. 1031, 1910.

DISTRIBUTION: also Mongolia, Manchuria, Siberia.

Prunus Padus var. *pubescens* f. *Purdomii* Koehne in Sargent, *Pl. Wilson*. i. 196 (1912).

CHILI: Wei chang, *W. Purdom*, no. 15 (in part), May 26, 1909; Hsiao Wu tai shan, alt. 2600 m., *F. N. Meyer*, no. 1170, August 12, 1913.

SHANSI: Fang shan hsien, Nan yang shan, alt. 1500–2500 m., *J. Hers*, nos. 2705 and 2712, September 22–30, 1923.

On the label of No. 2712 there is a note stating that the tree is used for making baskets.

Prunus brachypoda Batalin in *Act. Hort. Petrop.* xii. 166 (1892); in *Gartenfl.* xlii. 330 (1893).—Bretschneider, *Hist. Eur. Bot. Discov. China*, 1027 (1898).

KANSU: between Morping and Wuping, *G. N. Potanin* (ex Batalin, l. c.).

Prunus brachypoda var. *pseudossiori* Koehne in Sargent, *Pl. Wilson*. i. 65 (1911).

Prunus ssiori Pritzl in *Bot. Jahrb.* xxix. 408 (1900).—Non Fr. Schmidt.

HONAN: Lushih, Hiung eul shan, alt. 1300 m., *J. Hers*, no. 864, October 9, 1919; Lushih, Tang ho, alt. 1000 m., *J. Hers*, no. 953, October 11, 1919; Lushih, Kiao ho, alt. 1000 m., *J. Hers*, no. 962, October 12, 1919; Lushih, Tung ho, alt. 1000 m., *J. Hers*, no. 989, October 14, 1919; Sung hsien, San kuan miao, alt. 1000 m., *J. Hers*, no. 1306, September 27, 1919; Yung ning, Tsi li ping, alt. 1000 m., *J. Hers*, no. 1376, September 30, 1919; Tsi yuan hsien, Tien tan shan, *J. Hers*, no. 1809, September 21, 1921.

SHENSI: Tai pei shan, *W. Purdom*, no. 1, 1910; Lung chow, Sien fo shan, alt. 1000 m., *J. Hers*, no. 2326, July 2, 1922.—See also Koehne, l. c., and Pritzl, l. c.

DISTRIBUTION: also Hupeh and Szechuan.

As all the specimens cited above are sterile, their identification is open to doubt; some specimens such as nos. 864, 962 and 1376 differ from typical

var. *pseudossiori* in their broader and shorter, elliptic to obovate, abruptly acuminate leaves but agree in serration and texture with specimens of typical leaf shape; no. 1809 has rather membranous leaves and may possibly belong to *P. Padus*.

Prunus sericea Koehne var. *septentrionalis* Koehne in Sargent, Pl. Wilson. i. 64 (1911).

Prunus nepalensis var. *sericea* Diels in Bot. Jahrb. xxxvi. beibl. lxxxii. 57 (1905).—Vix Batalin.

SHENSI: In kia po, *G. Giraldi*, no. 6081 (ex Koehne, l. c., and Diels, l. c.).

Prunus velutina Batalin in Act. Hort. Petrop. xiv. 186 (1895).—Koehne in Sargent, Pl. Wilson. i. 69 (1911).

SHENSI: *G. Giraldi*, no. 4931 (ex Koehne, l. c.).

DISTRIBUTION: also Hupeh.

The following three apparently distinct forms of *Prunus* of the Hers collection have remained unidentified owing to the incomplete material:

Prunus spec. from Honan: Sung hsien, San kuan miao, *J. Hers*, no. 548, May 24, 1919 (with young fruits). Apparently related to *P. triloba*, but the bark of one-year-old branches is light yellow and exfoliates in flakes and strips.

Prunus spec. from Shensi: Lung chow, Kuan shan, alt. 2000 m., *J. Hers*, no. 2358, July 3, 1922 (sterile). Related to *P. lobulata* Koehne, but the leaves are rather short-petioled and the stipules more leaf-like and less deeply divided.

Prunus spec. from Honan: Sung hsien, Shih tze miao, *J. Hers*, nos. 484 and 1273, May 26 and September 25, 1919 (sterile). Similar to *P. Padus* var. *pubescens*, but the leaves are larger, finely serrulate and glaucous beneath.

Prinsepia uniflora Batalin in Act. Hort. Petrop. xii. 167 (1892); in Gartenfl. xlii. 331 (1892).—Rehder in Sargent, Pl. Wilson. i. 345 (1915).—Farrer in Jour. Roy. Hort. Soc. xlii. 103 (1916).—F. N. Meyer in U. S. Dept. Agric. Bur. Pl. Indust. Invent. Seeds Pl. Imp. xli. 28, no. 39432, pl. 3, 4 (1917); xlii. 53, no. 40023 (1918).—Hers in Jour. N. China Branch R. As. Soc. liii. 115 (1922); Liste Ess. Lign. Honan, 26 (1922).

HONAN: Mien chih, alt. 800 m., *J. Hers*, no. 68, August 20, 1919; Kung hsien, *J. Hers*, no. 89, April 22, 1920 and no. 197, April 18, 1921; Hsiao hsien, Huang tsang yu, alt. 200 m., *J. Hers*, no. 1034, May 26, 1919.—See also Hers, l. c.

SHANSI: Fu cheng, *F. N. Meyer*, no. 1633, July 21, 1915; Fen chow, *J. Hers*, no. 1907, April 20, 1922.—See also Meyer, l. c. (1917).

SHENSI: Yen an fu, *W. Purdom*, no. 324, 1910.

KANSU: San sze miao, *F. N. Meyer*, no. 2161^a, December 1, 1914 (seeds only; plants raised at Chico, California).—See also Farrer, l. c., and Meyer, l. c. (1918).

(To be continued)